

American journal of numismatics.

New York : American Numismatic Society, 1989-

<http://hdl.handle.net/2027/inu.30000009945910>

HathiTrust

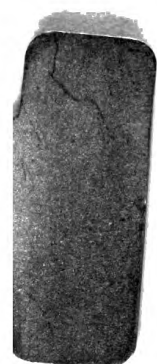


www.hathitrust.org

Creative Commons Attribution-NonCommercial-ShareAlike

http://www.hathitrust.org/access_use#cc-by-nc-sa-4.0

This work is protected by copyright law (which includes certain exceptions to the rights of the copyright holder that users may make, such as fair use where applicable under U.S. law), but made available under a Creative Commons Attribution-NonCommercial-ShareAlike license. You must attribute this work in the manner specified by the author or licensor (but not in any way that suggests that they endorse you or your use of the work). This work may be copied, distributed, displayed, and performed - and derivative works based upon it - but for non-commercial purposes only (if you are unsure where a use is non-commercial, contact the rights holder for clarification). If you alter, transform, or build upon this work, you may distribute the resulting work only under the same or similar license to this one. Please check the terms of the specific Creative Commons license as indicated at the item level. For details, see the full license deed at <http://creativecommons.org/licenses/by-nc-sa/4.0>.



American Journal of Numismatics, Second Series

AMERICAN JOURNAL OF NUMISMATICS

2



Second Series, continuing
The American Numismatic Society Museum Notes

THE AMERICAN NUMISMATIC SOCIETY
NEW YORK
1990

THE AMERICAN NUMISMATIC SOCIETY

Founded 1858 · Incorporated 1865

BROADWAY BETWEEN 155TH & 156TH STREETS
NEW YORK, N.Y. 10032

PURPOSES: The Society was founded for the collection and preservation of coins, medals, decorations and paper money and for the investigation of their history and other subjects connected therewith.

MEMBERSHIP: Applications for membership are welcomed from all interested in numismatics. Inquiries regarding membership should be addressed to the Secretary of the Society.

DUES: The annual dues for an Associate Membership are \$30.00. The Society's journal, the *American Journal of Numismatics*, is sent to all members in good standing. A publications subscription may be entered at the time of dues payment, entitling the member to receive a range of Society publications issued during the year.

PUBLICATIONS: The *American Journal of Numismatics* is a scholarly journal containing articles on numismatic topics. The Numismatic Notes and Monographs consist of separately issued publications, each on a single topic. Numismatic Studies is a series accommodating works in a larger format. *Numismatic Literature*, published twice each year, is an international abstract bibliography of the current literature in the profession. The Society is also engaged in the systematic publication of its entire Greek coin collection in *Sylloge Nummorum Graecorum: American Numismatic Society* as well as other private and public collections in the series, *Ancient Coins in North American Collections*.

MUSEUM: The Society maintains a museum located in uptown Manhattan, New York City, which houses its offices, collections and library. Collections embrace coins of all periods from their inception to modern times, medals, and decorations. Selections from its cabinets are on display in an exhibition. The library, consisting of some 70,000 titles, covers all branches of numismatics.

The museum is open to Members and the public from 9 A.M. to 4:30 P.M. on Tuesdays, Wednesdays, Thursdays, Fridays, and Saturdays. In addition, the public exhibition is open on Sundays from 1 to 4 P.M. The museum is closed on Mondays and the following holidays: New Year's Day, Lincoln's Birthday, Independence Day, Election Day, Thanksgiving Day, the fourth Friday in November, the fourth Saturday in November, December 24, Christmas Day. The public exhibition is open to the public from 9 A.M. to 4:30 P.M. on the fourth Friday and the fourth Saturday of November.

American Journal of Numismatics, Second Series

~~AMERICAN JOURNAL~~ OF NUMISMATICS

(New York, N.Y.: 1989)

2



CS
1
.A516
no. 2

Second Series, continuing
The American Numismatic Society Museum Notes

THE AMERICAN NUMISMATIC SOCIETY

NEW YORK

1990

© Copyright 1990
The American Numismatic Society

ISSN 0145-1413
ISBN 0-89722-244-X

★ Indiana University ★
★ FEB 20 1992 ★
★ Library ★

American Journal of Numismatics (9209/10/12, 97, 98, 1989)
1990, 1992
51-7 History, 1990-1992
C51
1-516

COMPOSED AND PRINTED IN BELGIUM AT CULTURA, WETTEREN

12-92

Digitized by Google

Original from
INDIANA UNIVERSITY

CONTENTS

GREEK

- HÉLÈNE NICOLET-PIERRE and JOHN H. KROLL. Athenian Tetradrachm Coinage of the Third Century B.C. 1

ROMAN AND BYZANTINE

- ROBERT NEWMAN. A Dialogue of Power in the Coinage of Antony and Octavian (44–30 B.C.) 37
C. P. JONES. Heracles at Smyrna 65
BEN L. DAMSKY. The Stadium Aureus of Septimius Severus 77
JAMES ERMATINGER. The Circulation Pattern of Diocletian's Nummus 107
P. N. PROTONOTARIOS. John V and Anna of Savoy in Thessalonica (1351–1365): The Sevres Hoard 119

ISLAMIC

- A. ERAN. Reweighing Balog's Glass Commodity Weights 129

MODERN

- H. P. FLATT. The Flawed Peruvian Proof Coins of 1886 151

BOOK REVIEWS

ANCIENT

- HILL, *The Monuments of Ancient Rome as Coin Types*. Fred S. Kleiner 167
ALRAM, *MIR 27. Die Münzprägung des Kaisers Maximinus I. Thrax (235/238)*. William E. Metcalf 171
DEPEYROT, *Le Bas-empire romain*. Jacqueline F. Long 174

CASEY AND REECE, *Coins and the Archaeologist*. John H. Kroll 181

MEDIEVAL

DUMAS-DUBOURG, *Le monnayage des ducs de Bourgogne*. Rosalind K. Berlow 183

KOVACS, *Münzen aus der ungarischen Landnahmezeit*. Alan M. Stahl 186

MALMER, *The Sigtuna Coinage c. 995–1005*. Deborah J. Shepherd 189

HENNEQUIN, *Monnaies de l'Islam et du Proche-Orient*. Michael L. Bates 194

MODERN

JONES, *Catalogue of French Medals in the British Museum*. Stephen K. Scher 197

PURVIS, *Proprietors, Patronage and Paper Money: Legislative Politics in New Jersey 1703–1776*. Eric P. Newman 207

BREEN, *Walter Breen's Complete Encyclopedia of U.S. and Colonial Coins*. Richard G. Doty 209

BOOKS RECEIVED 214

ATHENIAN TETRADRACHM COINAGE OF THE THIRD CENTURY B.C.

(PLATES 1-6)

HÉLÈNE NICOLET-PIERRE and JOHN H. KROLL

A frequent feature of third-century B.C. coin hoards on the Greek mainland is the presence of a substantial number of Athenian "Old Style" tetradrachms. In some of the larger hoards, such as the 115-piece hoard from Kiouleler in Thessaly, the 86-piece 1908 Sparta hoard, and the ca. 400-piece 1938 hoard from Corinth, Athenian tetradrachms are the largest single component, making up one-quarter to one-half of the entire deposit. Since the latest of these hoards dates from the last quarter of the third century, it is clear that Athenian silver continued to serve as one of the major coinages on the mainland down to the end of the century, despite the great mass of Alexanders then in circulation. Dodson and Wallace and, after them, Bingen have commented on the typology of the Athenian tetradrachms in a few of the hoards.¹ But although much of the material has long been illustrated in the plates of Svoronos's *Les Monnaies d'Athènes* (Munich, 1923-26; hereafter, Sv.),

¹ O. H. Dodson and W. P. Wallace, "The Kozani Hoard of 1955," *ANSMN* 11 (1964), pp. 26-28. J. Bingen, "Le trésor monétaire Thorikos 1969," *Thorikos* 6 (1973), pp. 7-59.

At the 1986 International Numismatic Congress in London, Nicolet-Pierre and Kroll learned that they had been separately assembling the same documentation on these coinages; accordingly they decided to present their findings in collaboration.

there has been no comprehensive review. The following paper fills this gap by surveying the Athenian material in 24 third-century hoards.²

THE *PI* AND *QUADRIDIGITÉ* COINAGES

None of these third-century hoards contains any tetradrachms of fifth-century type, and one finds only an occasional specimen from the first half of the fourth century (similar to Sv. 19.13–15, 19–27). Otherwise the earliest and, in all of the sizable deposits, the most common Athenian tetradrachms belong to the style that has been labeled the “bracket” style by Thompson or the pi style by Bingen after the configuration of the obverse helmet ornament. This profuse and relatively homogeneous pi-style silver began around or shortly after the middle of the fourth century, probably as a result of the financial reforms of Eubulus (358–342), and continued down to the capture of Athens by Demetrius Poliorcetes in 294, as indicated by the pi style of the gold coinage struck by the Athenian general and tyrant Lachares from 296 to 294.³ For purposes of comparison, see Plate 1, pi 1–pi 4,

² The third-century Athenian silver that was struck in the exceptional tetrobol and pentobol denominations (Sv. 23.43–45; 24.1–9, 18–24) is attested from only a single hoard context, the poorly documented 1935 find from Thebes (19 below) and, apart from a few remarks on this hoard in Appendix 1, is not treated in this study.

³ The review of this coinage by Bingen (above, n. 1), pp. 16–18, can be improved in a few particulars. (1) The piece from the University Collection in Athens is a forgery of which six examples are known: P. Kinns, *The Capara Forgeries* (London and Basel, 1984), pp. 27–28, 29 = Sv. 114.17–22. (2) According to the most recent discussions of Lachares’ career (Ch. Habicht, *Untersuchen zur politischen Geschichte Athens im 3. Jahrhundert v. Chr.*, Vestigia 30 [Munich, 1979], pp. 1–16; T. L. Shear, Jr., “Kallias of Sphettos and the Revolt of Athens in 286 B.C.,” *Hesperia Suppl.* 17 [Princeton, 1978], pp. 52–53, n. 144, and pp. 98–100), Lachares came to power in 298/7 and was paying his mercenaries with gold from the Acropolis in the summer of 296 (*P. Oxy.*, no. 2083 = *FGrHist*, no. 257a, frag. 4). He then established himself as tyrant in the spring of 295 and presumably continued to help himself to Acropolis gold until forced to flee when Athens capitulated to Demetrius Poliorcetes in the spring of 294. The gold coinage attributable to Lachares was therefore of nearly two years duration, a circumstance that seems to be reflected in the division of the coinage into an issue without adjunct symbol (as Sv. 21.7 and Thorikos hoard 6) and an issue with the reverse symbol of a bakchos ring (Sv. 21.1–6 and 8–21). (3) On the “Darics” (gold staters) that Lachares scattered during his escape to Thebes (Polyaenus 2.9.1), now see J. R. Melville-Jones, “Darics at Delphi,” *RBN* 125 (1979), pp. 25–26.

(17.13, 17.00, 17.14, and 17.16 g; all 8:00) from the Piraeus 1938 hoard (IGCH 25; CH 3, 27), which was made up entirely of pi-style tetradrachms.

The second variety of tetradrachms in the third-century hoards is most readily identified by the obverse helmet ornament, Bingen's *ornementation quadridigitée*, composed of four openly spaced branches.⁴ But there are several additional features that distinguish this third-century *quadridigité* (QD) silver from the essentially fourth-century silver of pi style. The Athena heads are more finely featured and less linearly rendered. Noses and eyes tend to be smaller; the noses, moreover, are sharply pointed, and the eyes, no longer heavily outlined, are set in a plasticly modeled brow. The owls are virtually indistinguishable from those on the pi coinage, although the horizontal fringe delineating the bottom of the owls' bodies is slightly enlarged. And whereas most of the pi owls have a small dot centered on their brow just above and between the eyes, the dot is normally omitted on the QD owls. The more conspicuous difference between the reverses of the two types of tetradrachms occurs in the letter forms of the ethnic: the decorative hellenistic ethnics of the third-century reverses normally employ small thetas and alphas with curved sides, in contrast to the classical, block-like letters of relatively even height in the fourth-century ethnics. The leaves of the olive sprig are full and meet at a right angle.

From the number of QD tetradrachms in the larger third-century hoards, the coinage would seem to have been of fairly respectable size. Unfortunately the counting of dies is difficult: the obverse Athena heads are highly standardized and only on occasional specimens is there enough detail to allow confident identification of the die.

On Plates 1–3 the QD silver is illustrated with the following specimens:⁵

⁴ Bingen (above, n. 1), p. 14, fig. 7.

⁵ This selection is drawn from well preserved and/or readily accessible examples. Many other specimens illustrated in the plates of Svoronos's corpus are listed in Appendix 1, pp. 22–32. Note that on QD coins the spiral ornament above the neck piece on the helmet scrolls clockwise on some dies, counterclockwise on others.

Plate 1

- *1. Haghioti Theodoroi 1901.90 (Sv. 27.14); 16.86, 8:00
- *2. Haghioti Theodoroi 1901.100 (Sv. 27.26); 16.96, 8:00
- *3. Haghioti Theodoroi 1901.97 (Sv. 27.22); 17.10, 8:00
- *4. Haghioti Theodoroi 1901.76 (Sv. 27.5); 17.03, 7:00
- *5. Haghioti Theodoroi 1901.86 (Sv. 27.9); 17.03, 8:00
- *6. Asea 1938; 17.05, 8:00
- *7. Asea 1938; 17.09, 8:00
- *8. Cast at Winterthur ("Marz 1965 Fund im Handel"); same obverse
die as 7

Plate 2

- *9. Asea 1938; 17.10, 8:00
- *10. Epidauros 1903 (Sv. 32.1); 17.07
- *11. Krčedin 1953, 43; 16.96, 8:30
- *12–13. Pergi (see n. 6 below); both 8:00
- *14–16. Pherai 1938 (lot in Athens); 16.97, 17.04, 17.05, all 8:00
- *17. Sparta 1908, 40 (Sv. 29.28); 16.74, 8:00
- *18. Sophikon 1893, 805 (Sv. 28.16); 16.30, 8:00
- *19. Corinth 1938; 17.14, 8:00
- *20. Athens, Agora Excavations, Λ–419; 16.28, 8:00

Plate 3

- *21. *BMCAthens* 141; 16.89, 8:00
- *22. Oxford (Redmayne, 1904); 4.07, 8:00
- *23. London, acq. 1920, Fox 367; 17.15, 8:00
- *24. Oxford (Godwyn); 17.01, 8:00
- *25. Paris, BN 397; 17.10, 8:00
- *26. Cast at Winterthur vH 124
- *27. London, acq. 1918, Ford 123; 16.90, 8:00
- *28. Athens, Credit Bank 369M (ex coll. Meletopoulos = Sv. 20.34);
17.12, 8:00

How is this *quadridigité* silver to be dated? The difficulty with its study and probably the reason why so little interest has been shown in it up to now are the result of its invariable admixture with pi-style pieces in third-century hoards. From hoard publications and from our

own examination of the relevant hoards in the Athens Numismatic Collection we have attempted to tabulate the two coinages separately. Altogether, the hoards span the approximately 70 years between the ca. 285 burial of the Thorikos 1969 hoard (from which QD silver is absent) and that of the ca. 215 Corinth 1938 hoard (with its four fresh Athenian drachms with symbols). Since the dating of the hoards depends primarily on the regal coins they contain, we have omitted deposits containing only Athenian coins. This leaves 24 hoards, which are divided into three internally related groups.⁶

HOARDS

Period 1, buried before ca. 270: *The Start of the Quadridigité Coinage*

Thorikos 1969 (*IGCH* 134), without any QD coins, is a good point of reference because of its size (292 pieces) and the fact that it was an excavation find datable to ca. 285. QD tetradrachms are found in later hoards of the first quarter of the third century which contain coins of the first successors of Alexander: Seleucus, Lysimachus, and Demetrius Poliorcetes (see Table I and Appendix 1, 1–7). The five QD tetradrachms in the 1901 hoard from Hagioi Theodoroi (near Lamia), Thessaly, are very well preserved and signal the introduction of this coinage into monetary circulation in Greece.

For reasons of historical probability, one cannot attach the start of the QD style directly to the end of the pi coinage. After the pi-style Lachares gold, which is represented in the Thorikos hoard and which was itself a kind of emergency coinage, Athens must not have struck

⁶ The Pergi 1955 hoard (*IGCH* 455) has been omitted as the coins at the Athens Numismatic Collection grouped under this heading come from a confiscation, and it is unclear whether or not they were found together and constitute a single deposit. This was recognized as early as 1957 by I. Varoucha, "Musées et collections d'Athènes," *BCH* 81 (1957), p. 497, n. 1, "Il n'est pas tout à fait sûr qu'elles appartiennent à ce trésor." The regal coins therefore should not be employed for dating the 113 Athenian-type tetradrachms (86 pi-style, 22 QD, 5 heterogeneous of our groups A and D). We thank Mrs. Oikonomidou for bringing this to our attention and, indeed, for her assistance with all of the other material in the Athens collection.

TABLE 1

Period 1, before ca. 270

<i>Hoard</i>	<i>Athens</i> <i>pi</i>	<i>QD</i>	<i>Philip</i> <i>II</i>	<i>Alex.</i>	<i>Philip</i> <i>III</i>	<i>Dem.</i> <i>Pol.</i>	<i>Lysim.</i> <i>Sel. I</i>	<i>Other Coinages</i>	<i>Burial</i>
1. HAG. THEODOROI 1901, <i>IGCH</i> 93	29	5	28	31 3 dr.	1			Thebes 8 Histiaea 5 Loc. Op. 1, Sicyon 1	ca. 285
2. SIPHNOS 1930, <i>IGCH</i> 91	5 dr. 11 triob.	1	1 dr.					Rhodes 8, Siphnos 4	280-270
3. ASEA 1938, <i>IGCH</i> 138	16	3	2	8 dr.	1 dr.		1		ca. 280
4. EPIDAUROS 1903, <i>IGCH</i> 158	11	1	16	1	4	3		Epidauros 4	ca. 280
5. AEGINA 1888, <i>IGCH</i> 143	4	7	1		1	3 stat.			ca. 280?
6. KIOULELER 1910, <i>IGCH</i> 144	33	10	55	8	2	5	2		280-275
7. PRILEPEC 1950, <i>IGCH</i> 448	16	4	137	10	15	19	6	Audoleon (Alex. types) 1	ca. 275

Regal coinages : Philip II, life-time and posthumous; Alex(ander), life-time and early posthumous; Philip III, 323-311; Dem(etrius) Pol(iorctetes), 306-285; Lysim(achus), 306-281; Sel(eucus) I, 312-280

any coinage at all during Demetrius Poliorcetes' domination of Attica. Although it is highly doubtful that the terms Demetrius imposed on the Athenians in 294 would have included a formal prohibition against the minting of silver,⁷ any major damage to the mining industry in eastern Attica would have been repaired slowly as is clear especially from the cessation of minting after the collapse of the mining industry towards the end of the Peloponnesian War. Plutarch (*Demetrius* 33) states that Poliorcetes began his protracted siege of Athens by having his troops lay waste the Attic countryside, and if this had a serious impact on the mining personnel and establishments around Laurion, as Bingen has plausibly argued,⁸ a significant interruption in production of the silver coinage is only to be expected and would readily account for the stylistic modification of the owl silver that has been described. The logical time for the resumption of minting is after the revolt of 287 or 286,⁹ when the Athenians expelled Demetrius's garrison from the fort on the Museum and embarked on the uninterrupted 25-year period of nationalistic revival that culminated in the Chremonidean War of the 260s.

Primarily to continue their offensive against Demetrius's remaining garrisons in Attica, especially to recover the Piraeus, in 286/5 the newly liberated Athenians sought aid from Lysimachus, Ptolemy I, and the nephew of Cassander, Antipater, and received from them a total of 200 talents of silver.¹⁰ Was the QD coinage inaugurated ca. 285 specifically

⁷ Two recent studies—Ch. Habicht, *Studien zur Geschichte Athens in hellenistischer Zeit*, Hypomnemata 73 (Göttingen, 1982), pp. 34–42, and T. Martin, *Sovereignty and Coinage in Classical Greece* (Princeton, 1985), esp. pp. 183–84, 246–47—emphasize that there is no evidence that Macedonian monarchs ever deprived cities under their authority of any putative “right of coinage.” According to Habicht and Martin, local minting policies were a matter of royal indifference.

⁸ Bingen (above, n. 1), pp. 20–21.

⁹ For debate over the year of the revolution, see Shear (above, n. 3), p. 61–73; Habicht (above, n. 3), pp. 45–62; and M. J. Osborne, “Kallias, Phaidros and the Revolt of Athens in 287 B. C.,” *ZPE* 35 (1975), pp. 181–94.

¹⁰ Plutarch, *Moralia* 851 d–f (Lysimachus: 30, then 100 talents; Ptolemy I: 50 talents; Antipater: 20 talents). Text, translation and commentary in Shear (above, n. 3), pp. 80–81, 93. Cf. Habicht (above, n. 3), pp. 24–25, 82.

TABLE 2

Period 2, before ca. 240

<i>Hoard</i>	<i>Athens Pi QD Hel.</i>	<i>Alex. III</i>	<i>Philip III</i>	<i>Dem. Pol.</i>	<i>Lysim. Sel. I</i>	<i>Alex. 280- 270</i>	<i>Ant. I & II</i>	<i>Gon. I</i>	<i>Ptolemy I II</i>	<i>Other Coinages</i>	<i>Burial</i>
8. PONTIOLEVADI KILKIS 1961, IGCH 445	4 1	66 33 dr	2 2 dr	5		1					ca. 270
9. KRCEDIN 1953	8 1 1	19	1	1	6	3	10			Celts 23	270-260
10. PHERAI 1938, IGCH 168	52+ 18	1 251 dr.		18	31 15 dr.			7		Larissa 155, Attalid I	ca. 260
11. PHAYTTOS 1956, IGCH 159	5 1 2	6 26 dr.	1 dr.	1	3	1	1	(1) 1	2 2 Æ	Cassander 2 Æ, Thessaly 2, Locr. Op. 2, Boeotia 2, Histiaea 2, Sicyon 3	ca. 260
12. ERETRIA 1981, 1B	2 3	10 dr.	1 dr.	1	3		(1) 1			Euboea 93 dr.	ca. 260
13. JABUKOVAC 1924, IGCH 447 and 458	1 1	45 44 dr.	2	1	3	2	8	(1) 2		Celts 108, Attalids 2	255-250

14. ERETRIA 1937, <i>IGCH</i> 175	19	11	24 + dr.	1 1 dr. 2 dr. 3 triob.	18	15	136 +	Philip II 1, Euboea 291, Boeotia 16, Phocis 1, Locr. Op. 20, Rhodes 7	ca. 245
15. OLYMPIA 1922, <i>IGCH</i> 176	1	1	11 5 dr.	1	1	2	2	4 Elis 31, Sicyon 2, Aegina 5, Locr. Op. 1, Boeotia 4	ca. 245
16. KOZANI(?) 1955, <i>IGCH</i> 457	5 + 1 +	2				8	6	Chalcis, Euboea 5	ca. 245
17. KARDITSA 1929, <i>IGCH</i> 162	4	3	2	3	1 (II)	2	5	Thessaly 6, Boeotian Thebes 2, Sicyon 1, Ephesus 1, Æ illeg. 5	245-240
18. THESSALY 1975, <i>CH</i> 3, 43	1 + 1 +	3 dr.	2	2			2	Philip II 1, Thessaly 5, Boeotia 5, Locr. Op. 1, Euboea 3, Sicyon 2	ca. 240

Latest regal coinages: Alex(ander later posthumous), 280-270; Ant(iochus) I, 281-261; II 261-246; (Antigonos) Gonat(as), 276-239; Ptolemy I, 311-285; II, 285-246

for coining this foreign silver into Athenian tetradrachms? In view of the silver analyses presented in Appendix 2 below, it seems more than likely. For, in contrast to the extraordinarily low levels of gold and copper impurities of the Laurion silver from which the owl coinage was struck from archaic times down through the pi series, the silver of 18 analyzed QD owls contained gold and copper percentages of a significantly higher order, precisely as one might expect if this silver derived from non-Attic sources.

The generally fine condition of the several QD specimens in the hoards of this first period agree with a ca. 285 starting date for the style and the possibility that the coinage may have been intensively struck and of short duration, although prolongation of the style cannot be ruled out. Among the ten tetradrachms from the Kiouleler hoard, two are somewhat worn and were conceivably exposed to as much as a decade of circulation; the rest are in good condition and their striking possibly quite recent. The QD pieces (189, 190, 192, and 194) are among the better preserved Athenian coins in the Prilepec hoard without, however, being *fleur de coin*. Overall the pi-style tetradrachms display more marked wear.

Period 2, buried before ca. 240: *The End of the Quadridigité Coinage*

The second group of hoards (Table 2, Appendix 1, 8–18) is characterized by the presence of coins of Antigonus Gonatas and the first two Ptolemies. The burials extend down into the 240s, by which time the QD tetradrachms are considerably worn (cf. the 11 QD specimens in the Eretria hoard). Thus whether the QD coinage was struck *en bloc* in the 280s, or whether minting continued on into the 270s and 260s, we may be sure that it did not outlast Gonatas's capture of Athens in 262/1 at the conclusion of the Chremonidean War. As in 294, the capitulation of 262/1 was preceded by an exhausting blockade and siege and resulted in the installation of Macedonian garrisons on the Museum and in the other forts of Attica.

In 255 Antigonus formally restored "freedom" to the city and apparently evacuated his troops from the Museum, though not from the

Piraeus and the other Attic forts,¹¹ so that the city-state remained under military occupation and did not experience the kind of economic or political revival that might have prompted a revival of coin production. There are good indications in the epigraphical and excavation record that the existing local currency in Athens at this time was in fact being supplemented by the silver and bronze coinage of Antigonos Gonatas, which the king had presumably consigned to Athens for payment to his occupying forces.¹² Even so, the international demand for tetradrachms with Athenian types remained as strong as ever, as the contemporary hoard evidence makes clear.

Period 3, buried before ca. 215: *The Revival of Coinage at Athens and the Typology of the "Heterogeneous" Silver*

This last group (Table 3, Appendix 1, 19–24) is composed of hoards that, in addition to their Athenian silver, include regal coins later than 246 which were struck by Antiochus Hierax, Seleucus II, Ptolemy III, and, in the case of the Corinth find, Seleucus III (226–223). Paradoxically, it is in this third group that Athenian tetradrachms are the most numerous. The tetradrachms are worn and, in the four latest hoards at any rate, the condition of the QD silver is comparable to that of the pi-style pieces, attesting to long circulation.

In an exhaustive review of the literature, Ch. Habicht deduced on the evidence of five published hoards from the period 250–215 B.C. that, after the discontinuation of Athenian silver coinage at the end of the Chremonidean War, minting did not resume until after 229 with the silver "with symbols."¹³ Does the more abundant material now at our disposal lead to the same conclusion?

¹¹ Eusebius, ed Schoene, vol. 2, pp. 120–21; Pausanias 3.6.6. Cf. E. Will, *Histoire politique du monde hellénistique* I (Nancy, 1966), pp. 204–5; Habicht (above, n. 7), pp. 16–17.

¹² So concludes Habicht (above, n. 7), pp. 34–42, while surveying the epigraphical evidence for the occasional dedication of Antigonid tetradrachms to Asklepios in Athens and the extensive circulation (documented by overstrikes and finds in the Agora excavations) of Gonatas's large module bronze in the city. It is now recognized that Antigonid Pan-head tetradrachms with the bakchos-ring symbol were struck in Macedonia, not Athens, as was formerly assumed; see Habicht, p. 41, n. 141.

¹³ Habicht (above, n. 7), p. 38.

TABLE 3

Period 3, before ca. 215

<i>Hoard</i>	<i>Athens</i>	<i>Alex.</i>	<i>Philip III</i>	<i>Lysim.</i>	<i>Sel. I</i>	<i>Alex. Ant. I</i>	<i>Gonal.</i>	<i>Ptolemy I II</i>	<i>Ant. II</i>	<i>Hierax</i>	<i>Seleucus Ptol.</i>	<i>Other Coinages</i>	<i>Burial</i>
19. THEBES 1935, <i>IGCH</i> 193	7		1 dr.					5				Athens: 1 pent., 1 tetrob., 2 (?) triob., Rhodes 14	240-225
	<i>Pi QD Hel.</i>												
20. HIJA E KORBIT 1982	13+12+8+	3	1	12		4	2	18	1	3		Attalids 4, Chios, Alex. 1 (Bauslaugh group II)	ca. 230
21. CARYSTUS 1945, <i>IGCH</i> 117	2+4+	5		1	2				1			Carystus 68, Euboeans 267, Elis 2	ca. 230
22. SPARTA 1908, <i>IGCH</i> 181	28	7	13	3	1	2	1	4	8	1	1	Dem. Pol. 3 Sparta 7	230-220
23. SOPHIKON 1893, <i>IGCH</i> 179	10+9+18*	16	1	1	1	1	1	1	10	2		4 Dem. Pol. 1, Aetolia 1, Boeotia 1, Sparta 1 Attalid 1, Rhodes 2	230-220
24. CORINTH 1938, <i>IGCH</i> 187	89	32	23	1	6	2	14	2	28	62	2	Athens: 4 dr. w. symbols, Aetolia 8, Ephesus 2, Rhodes 18	220-215

Latest regal coinages: (Antiochus) Hierax, 241–227; Seleucus II, 246–226; III, 226–223; Ptol(emy) III, 246–221

^a Total Athenian tetradrachms 141, most of which are too damaged for identification.

In hoards of the third period especially, one notices several tetradrachms that differ from the mass of pi and QD specimens—as well as among themselves. In Tables 2–3 we have grouped them under the rubric of “heterogeneous” silver. In number they represent but a modest percentage of the hoards’ owl tetradrachms, but they are so distinctive that they cannot be ignored. One quickly discovers frequent die linkage among them, in contrast to the uncommon linkage among the routine QD pieces such as are illustrated in Plates 1–3. Unlike the QD silver, these heterogenous pieces give the impression of having been struck from a small number of varied dies within relatively short periods. On the other hand, certain relationships between dies permit us to discern groupings of pieces, which share certain obverse or reverse elements with the QD coinage, while other elements may diverge quite radically. Because of their stylistic peculiarities and essentially derivative character, such pieces, if encountered in isolation, would be immediately classified as imitations.

THE HETEROGENEOUS GROUPS

We begin by defining the three groupings that are most closely related to the QD style through either the obverses or the reverses of certain specimens. The order of presentation below is not intended to imply any judgement on chronology, which will be discussed presently.

Group A (Plates 3 and 4)

- *1. Corinth 1938; 17.08, 8:00
- *2. Corinth 1938; 17.11, 8:00; same obv. die as A1
- *3. Pergi; 8:00; same rev. die as A2
- *4. Sophikon 1893, 791 (Sv. 28.30 = Svoronos, “Sophikou,” pl. 1, 17);¹⁴
16.56, 7:00
- *5. Oxford, acq. 1964, Robinson; 17.12, 7:00; same obv. die as A4
- 6. Pergi; 8:00
- 7. Athens (Sv. 23.9)
- 8. Sparta 1908, 55 (Sv. 29.34); 16.77, 8:00

¹⁴ J. Svoronos, “Eurema Sophikou Epidaurias,” *JIAN* 10 (1907), pp. 35–46.

- *9. Sparta 1908, 56 (Sv. 29.35); 16.40, 8:00; same obv. die as A7; same rev. die as A8
- *10. Corinth 1938; 17.13, 8:00; same obv. die as A7
 - 11. Hija e Korbit 1982, pl. 1, 20
 - 12. Hija e Korbit 1982, pl. 2, 28
 - 13. Sophikon 1893, 796 (Sv. 28.31); 16.40, 7:00
- *14–15. Sophikon 1893, 886 and 906; corroded (not illustrated by Svoronos)

The head of Athena on the first two coins can be distinguished from QD obverses only by the wider opening of the eye. The helmet ornament is clearly *quadridigité*. These pieces would pass unnoticed were it not for their peculiar reverses: A2 is remarkable for its larger owl, whose head, instead of being oval, has a more block-like shape. The engraving of the beak, eyes, and plumage evidence very painstaking work which substantially departs from the rather schematic representations of pi and QD owls. One can appreciate this even better from the less worn reverse of A3, struck from the same die. But this specimen (from the Pergi lot, see n. 6 above) displays a very different obverse style, with a helmet ornament that remotely recalls the classical florals of the pre-pi silver and Bingen's pi I ornament. It is altogether better preserved on A4 (from the Sophikon hoard), along with an owl with the enlarged head characteristic of the rest of group A—except for A1, from a different hand. The position of the moon crescent varies. Note the blundered crescent on A8 and 9.

Group B (Plate 4)

- *1. Sophikon 1893, 793 (Sv. 28.19); 16.03, 8:00
- *2. Sparta 1908, 53 (Sv. 29.33); 16.34, 8:00; same obv. die as B1
 - 3. Hija e Korbit 1982, pl. 1, 3 = pl. 2, 31; 16.91; perhaps same obv. die as B1
- *4. Corinth 1938; 17.09, 8:00; same obv. die as B1
 - 5. Hija e Korbit 1982, pl. 2, 26; 17.12

The reverse style of the first three examples of this small group is close to that of reverses usually associated with the QD obverses except that the olive leaves, instead of forming a right angle, are more closed. An altogether new obverse element is the volute at the terminal of the

helmet visor above the ear. Employed also with this same obverse is a reverse whose owl resembles the owls of Group A (compare B4 from the Corinth hoard with A10 and A1 from the same provenience; cf. further B5, from another pair of dies).

Group C (Plates 4–5)

- *1. Phayttos 1956, lot 2, Varoucha (above, n. 6), pl. 10, 20; 17.15, 11:00
- *2. Krčedin 1953, Popović 49; 17.03, 10:00; same obv. die as C1
- *3. Corinth 1938; 16.99, 12:00; same rev. die as C2
- 4. Boston Museum of Fine Arts; A. B. Brett, *Catalogue of Greek Coins* [Museum of Fine Arts, Boston] (New York, 1955), 1101; 17.06; same rev. die as C2
- *5. Sophikon 1893, 795 (Sv. 28.36); 15.86, 9:00
- 6. Coll. Rhousopoulos (Sv. 23.11); same rev. die as C5
- *7. Sparta 1908, 57 (Sv. 29.42); 16.75, 10:00
- 8. *SNGTubingen* 3, 1667 (Sv. 23.6); 17.00, 10:00
- *9. *NFA Journal* 35, Summer 1988, 42; 16.80; perhaps same obv. die as C8; same rev. die as C2
- *10. Sophikon 1893, 794 (Sv. 28.35 = Svoronos [above, n. 14], pl. 1, 16); 15.75, 11:00; same obv. die as C4; same rev. die as C7
- *11. Oxford, acq. 1964, Robinson; 16.68, 10:00; same obv. die as C4
- *12. *BMC Athens* 277, ex Woodhouse (Sv. 111.2); 16.75, 10:00; same obv. die as C4
- *13. Coll. Solon (Sv. 111.3); 17.05; same rev. die as C12
- 14. Larissa (Sitochoro) 1968. Price, pl. 60, 219; 17.12¹⁵

The most striking characteristic of this group is, as in Group B, the volute on the helmet visor, although it is omitted from C13 (which seems to bear an ornament of deformed pi type). Conspicuous also are the varied and often irregular styles of the owls, some (like C1) rather close to normal QD owls, others so entirely different as to include the truly amazing owl of C12 and C13, which Svoronos ranked among his "Arabic imitations of Athenian coin-types." One important technical aspect that distinguishes these coins from all those described previously is that their dies are normally no longer adjusted in the 7 or 8 o'clock

¹⁵ M. J. Price, "The Larissa, 1968 Hoard (*IGCH* 237)," in G. Le Rider *et al.*, eds., *Kraay-Mørkholm Essays* (Louvain, 1989), pp. 234–43.

positions; in all verifiable instances the alignments vary from 9 to 12 o'clock, and thus represent a clear break with the well attested Athenian practice of the fourth and earlier third centuries B.C. It appears further that at least some of the reverse dies employed in Group C had broad, circular faces instead of the square faces of traditional Athenian punch dies. This is shown by the missing edge of an incuse square at the right of C13, by a round impression left by a cylindrical punch along the edge of C6, and by the non-perpendicular orientation of the ethnic on C5-6.

Group D (Plate 5)

- *1. Phayttos 1956, lot 1 = Franke, 43; 16.94¹⁶
- 2. Kozani 1955, 12
- 3. Kozani 1955, 13
- *4. Pergi; 8:00
- *5. Pergi; 8:00; same obv. die as D4
- *6. Corinth 1938; 17.00, 8:00
- *7. Corinth 1938; 17.21, 8:00

This small group consists of reverses that are particularly awkward in the representation of the owls' plumage, which terminates in a tufted horizontal band resembling a skirt; the two unfeathered legs are simply appended below. The engraving exaggerates a style that had already begun to develop in C1 from the Phayttos hoard.

Group E (Plates 5-6)

- 1. Hija e Korbit 1982, pl. 1, 10 = pl. 2, 29
- *2. Corinth 1938; 17.13, 8:00; same obv. die as E1
- 3. Corinth 1938; 17.02, 8:00; same obv. die as E1
- *4. Corinth 1938; 17.23, 8:00; same obv. die as E1

The obverses of these coins were struck from a die of fine workmanship but with a surprising design on the helmet: as in group A,

¹⁶ P. R. Franke, "Zur Geschichte des Antigonos Gonatas und der Oitaioi," *Archäologische Anzeiger* 1958, pp. 38-62. The publication indicates a 3:00 die axis, which is entirely irregular for Athenian tetradrachms. The last Athenian piece, 46, weighing 14.45 g, is recorded with the nearly normal 9:00 alignment. Could a typographical error have reversed them?

the bell-shaped ornament appears to be derived from prototypes of the fourth century. E4 shows that the reverses were struck from square punch-dies.

Group F (Plate 6)

- *1. Corinth 1938; 16.99, 8:00
- 2. London, ex Fox 1920, 368 (Sv. 23.3); 17.14, 8:00; same dies as F1
- 3. Sparta 1908, 35 (Sv. 29.37); 16.54, 9:00; same obv. die as F1
- *4. London, ex Seager 1926, 812; 16.93, 8:00; same dies as F3
- 5. Commerce (Sv. 23.4); same rev. die as F3
- *6. Corinth 1938; 17.04, 8:00
- 7. Berlin (Sv. 23.2); same rev. die as F6
- *8. Sparta 1908, 42 (Sv. 29.39); 16.80, 8:00; same obv. die as F7
- 9. Sophikon 1893, 792 (Sv. 18.33); 16.30, 8:00; same dies as F8
- 10. Hija e Korbit 1982, pl. 1, 21
- 11. Hija e Korbit 1982, pl. 1, 18
- 12. Hija e Korbit 1982, pl. 1, 8 = pl. 2, 34
- *13. Corinth 1938; 17.10, 8:00; same obv. die as F12
- *14. Olympia 1922, 41; same obv. die as F12
- *15. ANS 1948.171.2 (Corinth 1938); 17.19, 8:00; same obv. die as F12
- 16. Commerce (Sv. 23.7)
- *17. ANS 1948.171.4 (Corinth 1938); 17.15, 8:00
- *18. Sophikon 1893, 788 (Sv. 28.29); 15.10, 8:00; same obv. die as F17 and a closely related rev. die. The Sophikon hoard contains nine other tetradrachms (Sv. 28.20–28, all 8:00) struck from this same obv. die and this and two other rev. dies (F17 and Sv. 28.25 respectively).
- 19. Commerce (Sv. 23.8); possibly same obv. die as F17
- *20. Corinth 1938; 17.20, 8:00
- 21. Corinth 1938; 17.10, 8:00
- 22. ANS 1948.171.3 (Corinth 1938); 17.14, 8:00
- *23. Agora Excavations K-1388; 15.82, 8:00

In this broad group the helmet ornament terminates in four supple branches, variously curved; faces are heavier than in the QD coinage; and the hair is frequently represented in large globules (F6–9,

F12–15).¹⁷ The presence of ten coins from the same obverse die (F17) in the Sophikon find is notable and implies that the coins' manufacture should not be much removed from the closing date of the deposit, in or near the 220s. It should be observed also that this obverse is employed with some reverses that, like those of F11–12 or B1–3, would be taken for QD reverses were it not for the different angle of the olive leaves. Strong *quadridigité* influence occurs also in the helmet florals of some of the obverse dies, especially of F6–9. On the other hand a conspicuous stiffness is characteristic of the owls depicted on F14, 16, 19, and 20, and the skirt appears in other instances, for example on F3 and related pieces. Whenever we have been able to verify die positions, alignments are consistently at 8 c'clock.

The Place of the Heterogeneous Groups in Athenian Coinage

Heterogeneous silver first appears in the second group of hoards—Krčedin 1953 (ca. 270–260), Phayttos 1956 (ca. 260), and Kozani 1955 (ca. 245). From the composition of these hoards, it would seem that groups C and D were already in circulation before ca. 250. The small group B, associated by obverse with group C and by reverses with the QD silver, ought not to be far distant from C. It remains to place the emissions that make up group E (in fact the production of a single obverse die) and the larger groups A and F. These pieces are present in period 3 hoards buried between 240 and 220, although their condition and paucity permit only the most tentative deductions.¹⁸ Nevertheless it appears that the heterogeneous tetradrachms must have been struck in the period when Athenian minting is normally assumed to have

¹⁷ F1–4 are of special interest since the same die cutter is probably responsible for the nearly identical obverse die(s) of the four heterogeneous drachms Sv. 23.13–16 (with a standard pi/QD owl reverse die, or dies). For heterogeneous hemidrachms, probably also to be associated with group F, see Sv. 21.51–52, from the same pair of dies.

¹⁸ One notes, for example, that of the two illustrated coins from the same obverse die in the Corinth hoard, E2 and E4, the former is worn and the latter is very fresh. The attribution of the heterogeneous silver has been a topic of lively and friendly debate between the two authors. This discussion essentially reflects the position of H. Nicolet-Pierre. J. Kroll hopes to return to the problem in a later study.

stopped. Does the existence of these groups oblige us to revise this assumption? Or should we ask instead, where were these coins struck?

A *prima facie* case can be made for considering them a prolongation, intermittent to be sure, but nevertheless official, of the QD coinage, a prolongation, or rather a revival, that would have followed upon the *eleutheria* Antigonus Gonatas conceded to Athens in 255.¹⁹ The groups of heterogeneous tetradrachms which appear in these hoards after this date are A, B, E, and F. But the disparate appearance of these striking is startling to anyone who is familiar with the exceptionally sustained style of other Athenian series in which it is practically impossible to distinguish the hands of engravers and change is barely perceptible. Here, suddenly, there is abundant die linkage among very few dies, all portraying the same types, but displaying little real resemblance from one group to the next, and in some cases even within the same group. More than the ineptness or unsightliness of certain specimens, it is this absence of unity that appears most difficult to explain within the context of the mint of Athens, even of an Athens that had become economically and politically weakened.

The imitation of Athenian tetradrachms, at various times and places, is a well established fact. Many imitations of fifth- and fourth-century type can be localized geographically.²⁰ For these heterogeneous coins of the third century, the provenances, though Greek, are dispersed: hoards are found in the Peloponnese, in Thessaly, in Macedonia, and toward the farthest reaches of the penetration of Greek coinage in Illyria and the Danube valley. The places of discovery (not to mention historical probability) exclude an oriental origin for these pieces but give no help whatsoever in discovering the place or places of mintage in Greece proper. F23, from the Athenian Agora, confirms what one could have predicted from the Sophikon and Corinth hoards off the Saronic Gulf, namely that to some extent heterogeneous coins found their way into

¹⁹ Although Habicht (above, n. 7), pp. 40–41, has observed that this grant of freedom, whatever else it entailed, was unlikely to have had any direct political impact on Athenian minting, it does mark the beginning of Athens' gradual recovery from the disaster of 262/1.

²⁰ H. Nicolet-Pierre, "L'Oiseau d'Athéna, d'Egypte en Bactriane," *BCH Suppl.* 14: *Iconographie classique et identités régionales* (Paris, 1986), pp. 365–76.

circulation in Attica, but by no means does this require us to assume that they were minted there. Of the several imitation Athenian tetradrachms of fifth-century type that have turned up in the Agora excavations, at least one was of foreign manufacture.²¹

With regard to die alignments, it has already been noted that groups A, D, E, and F follow normal Athenian practice. It is style alone that sets the groups apart. Limiting consideration to obverses, there are at least eight different versions of the helmet ornament all of which recall to greater or lesser degree the ornaments on the standard pi or QD tetradrachms. These heterogeneous strikings therefore have the characteristics of carefully prepared private imitations, intended to blend into the pool of circulating Attic owls—which, as the hoarded specimens attest, they successfully did. Group B displays a less discrete stylistic novelty: the addition of a volute at the hinge of the visor on Athena's helmet. This conspicuous modification of a familiar coin type is difficult to explain as part of an intended counterfeit. Moreover it is found in group C in association with the technical peculiarities of variably aligned dies, ranging from 9 to 12 o'clock, and the use of cylindrical punch dies. Are these bonafide Athenian emissions? Certainly group C shares some traits with the Athenian tetradrachms that slightly precede the New Style coinage.²² These tetradrachms were likewise struck with a small number of dies, aligned in the 12 o'clock position; their reverse dies were cylindrical in section; and their helmet visors also end in a volute. If there were proof that group C was the most recent of the heterogeneous coinages, C would provide a satisfactory transition to the later Athenian issues. But beside the circumstance that this interpretation would introduce the incredible owl of C12 and 13 and the undeniably strange obverse of C13 into the Athenian series, it is contrary to the chronological indications provided by the Krædin

²¹ Nicophon's law of 375/4 (R. S. Stroud, *Hesperia* 43 [1974], pp. 157–88) provides further proof of the circulation of foreign coin with Athenian types in the commerce of Athens and the Piræus.

²² See H. Nicolet-Pierre, "De l'ancien au nouveau style athénien, une continuité?" in S. Scheers, ed., *Studia Paulo Naster Oblata*, 1 (Louvain, 1982), pp. 105–14; "De l'ancien au nouveau style (suite): à propos de SNG Berry 742," *BSFN*, March 1983, pp. 293–95.

and Phayttos hoards, whose integrity and chronological relevance would have to be contested. It appears more satisfactory to rank group C also among the imitations. Far from being the direct precursor of the tetradrachms with symbols and monograms, which are later by several decades, the group C coins are perhaps the most foreign of the imitations, though we cannot at present identify their origin. These pieces are possibly the product of a workshop or workshops that were unattentive to Athenian mint procedures, while their obverse design may simply reproduce the actual form of contemporary helmets.

It remains probable nevertheless that all these owls were accepted as Athenian. Their presence in hoards is not insignificant: heterogeneous pieces account for 12 percent of the tetradrachms with Athenian types in the hoards, as compared with 18 percent of QD style. Of good weight and, apparently, good silver, they were not "false" in an absolute sense. The suspension of minting at Athens in, or before, 262/1 must have stimulated their manufacture,²³ and the prolonged inactivity of the official mint probably encouraged toleration of their circulation. In these circumstances, the introduction of issue symbols, first attested on the four *fleur de coin* drachms of the Corinth hoard,²⁴ may manifest a desire on the part of the Athenian government to re-establish control over the coinage in reaction to a situation that had become anarchic. The somewhat coarse style of these drachms is comparable to that of the Athenian types that were overstruck on bronze coins of Antigonus Gonatas after 229;²⁵ designed with a new floral ornament on the helmet and a new earring for Athena, they turn their back on the past. In this context, the addition of the volute to the end of the visor is but one of several traits that introduce a little more realism into the represen-

²³ Just as, *mutatis mutandis*, the interruption of tetradrachm production in the fifth century at the end of the Peloponnesian War seems to have been a significant factor behind the striking of Near Eastern and Egyptian imitations.

²⁴ The four drachms are from three emissions. Overall the drachm coinage was composed of at least 14 differently marked emissions, known today from about 30 specimens.

²⁵ Sv. 24.10–16. Specimens with partially visible undertypes: Fred Kleiner, "The Earliest Athenian New Style Bronze Coins, Some Evidence from the Athenian Agora," *Hesperia* 44 (1975), pl. 75, 86 and 171. The overstriking belongs in the 220s, not in 200 as Habicht (above, n. 7), p. 42, has recently suggested.

tation. The later tetradrachms with symbols and monograms continue this renovation, which concludes finally in the stephanephoric coinage. However this may be, it is clear from the hoards that as late as the penultimate decade of the third century, pi-style tetradrachms, worn and a century old, were still the most common Athenian silver in circulation.²⁶ They were probably reminted later, since a mixed hoard of Old and New Style silver together has yet to be recorded. To judge from the Larissa 1968 hoard, which contained a pi, a QD, and a group C heterogeneous tetradrachm (C14) in addition to its sixteen later tetradrachms with symbols and monograms, such recoinage was still uncompleted as late as ca. 168.²⁷

APPENDICES

1. THE HOARDS

Period 1, before ca. 270

1. **Haghioi Theodoroi**, near Lamia, Thessaly, 1901 = *IGCH* 93. This hoard contains 28 tetradrachms with the types of Philip II.²⁸ Seven of the posthumous Philips are attributable to the time of Philip III and four to the time of Cassander. Among the Alexanders, one, considered the most recent in the hoard, bears marks also from the time of Cassander, ΑΙ torch Η, and goes with Le Rider's Amphipolis group 4, of ca. 315–295. Le Rider thus accepts the *IGCH* burial date proposed by Price, ca. 310–300. But this date does not take the Athenian coinage into consideration: the presence of five Athenian tetradrachms designed with the *quadridigité* helmet ornament (Plate 1, 1–5) and clearly less worn than the rest of the hoard material requires lowering by a decade

²⁶ Among the pi-style coins a certain number of imitations were also circulating; these still await systematic study.

²⁷ The extremely worn Larissa pi and QD specimens, Price (above, n. 15), pp. 220–21, are illustrated by M. Oikonomidou, "Thesaurus nomismaton ek Thessalias 1968," *ArchEphemeris* 1970, pl. 6, 4 and 5.

²⁸ G. Le Rider, *Le monnayage d'argent et d'or de Philippe II* (Paris, 1977), pp. 316–17.

at least, if the QD style falls (as it must) well after the 296–294 strikings of Lachares. This suggests a closing date of ca. 285 (cf. Newell's suggested ca. 308–295).²⁹

2. **Siphnos** 1930 = *IGCH* 91. Newell's burial date in *IGCH* (320–300) must be substantially revised, since Newell did not distinguish the well preserved QD tetradrachm³⁰ from the other Athenian coins: 11 very worn triobols and five worn pi drachms. Furthermore, Newell's Rhodian hemidrachms, nos. 25–29, fall under Ashton's series 3 and are even more recent.³¹ Newell was unsure whether the hoard was acquired in its totality. Burial 280–270, or later.

3. **Asea**, Arcadia, 1938 = *IGCH* 138. The hoard's Lysimachus (with torch-star, mint of Lampsacus, 297–282) is very well preserved, in a state comparable to the three Athenian QD tetradrachms (Plate 1, 6–7; Plate 2, 9), while the Alexanders and the Philip III are worn or very worn. A burial date of ca. 280 is likely.

4. **Epidaurus** 1903 = *IGCH* 158. The Lysimachi and three of the Alexanders are in good condition, as is the Athenian QD tetradrachm (Plate 2, 10, a misleading photograph since the reverse has not been entirely cleaned of corrosion). This last should be one of the latest pieces in the hoard, along with the Lysimachus of Amphipolis struck between 288 and 282, which justifies the dating proposed by Newell, "after 282." There are no reasons to favor a date much after ca. 280.

5. **Aegina** 1888 = *IGCH* 143. Svoronos's illustration of this hoard is incomplete; there are in fact four tetradrachms of pi style and seven QD: to Sv. 32.8, 9, 13, and 14, one must add 121, 123, and 124 from the 1892/93 KE' listing in the Athens Numismatic Museum inventory. All of these pieces have corroded surfaces and light weights, probably from cleaning. The tetradrachm of Demetrius Poliorcetes (Nike on prow/

²⁹ E. T. Newell, *The Coinage of Demetrius Poliorcetes* (London, 1927), p. 168 and n. 13.

³⁰ E. T. Newell, *A Hoard from Siphnos*, *ANSNNM* 64 (1934), 5, pl. 1, 4. Cf. T. R. Martin's remarks on this and the preceding hoard, "A Third Century B.C. Hoard from Thessaly at the ANS (*IGCH* 168)," *ANSMN* 26 (1981), p. 73.

³¹ R. Ashton, "Rhodian Coinage and the Colossus," *RN* 1988, pp. 75–90, esp. p. 84, n. 21.

Poseidon standing) is covered with a thick, black patina, which makes the reading—A and bipennis (?) at left—difficult. The burial date suggested by Newell, “after ca. 287 B.C.,”³² has to be lowered to accommodate the QD strikings, but by how much is unclear from the coins’ condition. Ca. 280?

6. **Kiouleler**, Thessaly, ca. 1910 = *IGCH* 144. The QD tetradrachms are illustrated by Svoronos: Sv. 31.4, 13, 17, 20, 29, 31, 32, 34, 39, and 40. Three of these are fairly worn, and seem hardly comparable with the higher date of 287 proposed by Newell.³³ Newell also mentions a Lysimachus struck at Amphipolis, “which speaks for a burial after 285.”³⁴ The most recent piece should be the Seleucus I of the type *ESM* 9,³⁵ Seleuceia-on-Tigris, whose date must be lowered: between 292 and 280, according to Waggoner.³⁶ Among the 55 Alexanders of this deposit, R. Mathisen did not find any posthumous Macedonian emissions after 280.³⁷ The burial was probably within the years 280–275. Elsewhere, Newell opined “possibly at the time of the Gallic invasions of 279 B.C.”³⁸

7. **Prilepec** (Yugoslavia) 1950 = *IGCH* 448. The hoard contains no large-flan Alexanders struck after the death of Lysimachus³⁹ and no posthumous Lysimachi. But the QD tetradrachms are not *fleur de coin*. Wear is already apparent on 189, 190, 192, and 194, for example.⁴⁰ The date of burial should probably be lowered to ca. 275.

³² Newell (above, n. 29), p. 134, n. 5.

³³ Newell (above, n. 29), p. 134, n. 5.

³⁴ Newell (above, n. 29), p. 164.

³⁵ E. T. Newell, *The Coinage of the Eastern Seleucid Mints*, ANSNS 1 (rpt. 1978), p. 14.

³⁶ N. M. Waggoner, “The Early Alexander Coinage at Seleucia on the Tigris,” *ANSMN* 15 (1969), p. 27.

³⁷ R. Mathisen, “Antigonos Gonatas and the Silver Coinage of Macedonia circa 280–270 B.C.,” *ANSMN* 26 (1981), p. 80, n. 3.

³⁸ E. T. Newell, *The Coinage of the Western Seleucid Mints*, ANSNS 4 (rpt. 1977), p. 42, n. 20.

³⁹ Mathisen (above, n. 37), p. 80.

⁴⁰ D. Vucković-Todorović, “Le Dépôt de monnaies grecques du village Prilepec près de Prilep,” *Glasnik Muz-KonzDrušt Makedonja* 1, 12 (1958), pls. 16–17.

Period 2, before ca. 240

8. **Pontolivadi-Kilkis**, Macedonia, 1961 = *IGCH* 445. The small group of Athenian coins includes one QD tetradrachm. Among the Alexanders there is a tetradrachm from the time of Gonatas, with helmet symbol,⁴¹ so the ca. 280 hoard date proposed in *IGCH* must be lowered by about a decade to ca. 270.

9. **Krčedin** (Yugoslavia) 1953. The most recent hellenistic coins are some tetradrachms from the decade 280–270, which are well preserved despite being cut with deep chisel gashes.⁴² The generally good and legible condition of the Greek part of the hoard contrasts with that of the Celtic coins, imitations of Philip II staters of the “Husi-Vovriști” type,⁴³ which are completely worn, more so even than a Macedonian Alexander struck during the king’s lifetime. This poses a problem in dating since these Celtic coins have been attributed at the earliest to the second half of the third century. But having been similarly gashed, the coins of the two groups seem to have circulated together. Since the chronology of the regal coinages is more secure than that of the Celtic silver we are disposed to let those dates prevail. The hoard’s Greek material attests to withdrawal from circulation during the decade 270–260. Among the owls, the pi style pieces are worn (except 42), the QD tetradrachm 43 (Plate 2, 11), less so; the “heterogeneous” tetradrachm 49 (Plate 4, C2) is fresh.

10. **Pherai**, Thessaly, 1938 = *IGCH* 168 (“Larissa environs”) and 141 (“Volos”). The *IGCH* entry 141, “Volos, Thessaly, c. 1937,” has to be voided. It is merely a duplicate listing of the Athens Numismatic Museum lot (indicated in parentheses) of *IGCH* 168, to which can be added five coins located since 1973. A manuscript note at the museum gives the place and year of discovery: “between Pherai and Hag. Gedeon, 1938.” The major portion of the hoard, assembled by Newell, was published by T. R. Martin, who grouped together the 15 QD tetra-

⁴¹ Mathisen (above, n. 37), p. 83, Table 2.

⁴² P. Popovic, “A Hoard of Silver Coins from Krčedin,” *Numizmaticar* 6 (Belgrade, 1983), pp. 11–20, illus.

⁴³ See C. Preda, *Monedele Gelo-dacilor* (Bucarest, 1973), pls. 21–27.

drachms.⁴⁴ Dismissing the intrusive Aetolian tetradrachm (might it have come into Newell's hands out of the Corinth hoard, found also in 1938 and containing eight other Aetolian pieces?), Martin accepts the *IGCH* burial date of ca. 250. But one wonders whether this date should be slightly raised since the Attalid tetradrachm 571 of U. Westermark's group 3⁴⁵ belongs in all probability at the very beginning of the reign of Eumenes who ascended the throne in 263. Group 2, with the diademed head of Philetaerus, must have been struck by this king during his lifetime, and the first posthumous Philetaerus tetradrachms, with laureate crown, are issues of the 19 obverse dies of group 3. It appears today, in light of the Gulnar-Meydancikkale hoard buried around 240–235, that Eumenes also struck Westermark groups 4, 5, and possibly (or in part) 6A. A burial date of ca. 260 agrees with the excellent condition of a coin of Eumenes, as well as with the seven Pan-head tetradrachms of Gonatus with helmet symbol which began in 271/70 and were intensively struck during the Chremonidean War.⁴⁶

11. **Phayttos**, Thessaly, 1956 = *IGCH* 159. The most recent pieces seem to be the two "Pans" of Gonatus with helmet symbol, both from the same dies and very fresh, from the lot published by Franke (above, n. 15, pp. 38–62) and the "heterogeneous" Athenian tetradrachm published as pl. 10, 20, by Varoucha (above, n. 6), our C1 (Plate 4). The Alexander, Franke's 2, which belongs to Mathisen group 6, is also very well preserved. It is unnecessary to lower the ca. 260 burial date proposed by Franke. The Macedonian Heracles/Horseman bronzes, Franke 33 and 34, are most likely of Cassander (cf. Franke's note 8 with reference to *SNGCop.* 1146 and following), an identification that will explain the worn condition of the two coins whose legends can no longer be read. Franke 41 is the one Athenian QD tetradrachm.

12. **Eretria 1981, 1b**.⁴⁷ Three of the seven Athenian coins (110, 112, and 116) are of QD type; despite the wear of their obverses, their classi-

⁴⁴ Martin, (above, n. 30), pp. 51–77; the QD coins are found on p. 60, group 4.

⁴⁵ U. Westermark, *Das bildnis des Philetairos von Pergamon* (Stockholm, 1960).

⁴⁶ A. Davesne and G. Le Rider, *Le trésor de Meydancikkale Cilicie Trachée, 1980* (Paris, 1989), pp. 334–40; see Mathisen (above, n. 37), p. 114.

⁴⁷ Published by M. Karamezini-Oikonomidou, "Duo Nomismatikoi 'Thesauroi' apo ten anaskaphe sten Eretria, 1981," *ArchEphemeris* 1983, pp. 137–47.

fication is clearly recognizable from the characteristic form of the alpha. The latest regal coin, an Antiochus I from Seleucia on the Tigris (*ESM* 157), struck according to Newell ca. 270–267, gives a ca. 260 date of concealment.

13. **Jabukovac** (Yugoslavia) about 1920 = *IGCH* 447 and 458. The hoard entered under the name of this Serbian locality in *IGCH* contains, like the foregoing Eretria find, a coin of Antiochus I from Seleucia on the Tigris (*ESM* 162–66), struck ca. 265–264 according to Newell. Coin 8 is a posthumous Alexander with a Macedonian helmet, Mathisen group 6, Amphipolis 273–271.⁴⁸ It is quite evident that the ca. 280 date accepted for this lot in *IGCH* has to be lowered by a good 20 years.

On the other hand, V. J. Hunter's ca. 220 dating of the "Zemun" hoard (*IGCH* 458)⁴⁹ rests on her 92, a well preserved Attalid tetradrachm that on the Imhoof-Blümer chronology adopted by Westermark is attributed to Attalos I. It falls in the middle of Westermark's group 4A which (as mentioned above in connection with Pherai 1938) must have been struck in the first part of the reign of Eumenes I (ca. 255?). Coin 91 is a Philetaerus of group 3, similar to Pherai 571 (263–260?). All of the other coins published by Hunter are anterior to 270, save for an Alexander of Aradus with palm (45) and a posthumous Lysimachus (86), of uncertain attribution. One is thus led to propose a ca. 255–250 burial for the entire "Zemun" ensemble.

Given these several corrections, the two lots correspond with each other quite closely, and there is no longer any reason to doubt the testimony of Vucković-Todorović as to the unity of the hoard and to its discovery a little before 1920 in a locality near Negotin in eastern Serbia.⁵⁰ The two Athenian tetradrachms seem worn, as is natural in a hoard buried around 255–250.

14. **Eretria**, Euboea, 1937 = *IGCH* 175. This find, or at least the part preserved at Athens, has been re-catalogued and partially illustrated by

⁴⁸ Mathisen (above, n. 37), p. 110, Table 14.

⁴⁹ V. J. Hunter, "A Third Century Hoard from Serbia and Its Significance for Celtic History," *ANSMN* 13 (1967), pp. 17–40.

⁵⁰ D. Vucković-Todorović, "Ostava greko-keltskog novca iz III veka pre naše ere," *Starinar* 20 (1969), p. 403.

Picard.⁵¹ The substantial Ptolemaic component allows for a precise dating: the dated coins of Ptolemy II stop in 250 and are followed by a single coin (470, in very fine condition) attributable to Ptolemy III. Picard's proposed date of burial, ca. 245 or immediately thereafter, is probable. The 30 Athenian tetradrachms are nearly all very worn. Reconstruction of the hoard's original composition is highly problematic as some lots must have been entered commerce in 1938 with others that derive from the Pherai deposit (above, hoard 10).

15. **Olympia**, Elis, 1922 = *IGCH* 176. Newell assigned a broad date-bracket to this hoard, 250–225, but earlier emphasized the absence of any coin of Ptolemy III.⁵² The hoard's last dated Ptolemy II is from 254/3 and is in fine condition. Further, the Peloponnesian Alexanders, 68–71 of the publication, are very fresh. They belong to a series studied by Troxell and were certainly struck during the second quarter of the third century.⁵³ We may reasonably accept Troxell's dating of ca. 245 for the deposition. According to Newell's references to Svoronos, the Athenian tetradrachms 39 and 40 are of the pi and the QD styles respectively. The best preserved, 41, which Newell illustrates in his Plate 1, 41, is here "heterogeneous" F14 on Plate 6.

16. "**Kozani**, Macedonia," 1955 = *IGCH* 457. As in the Olympia 1922 find the latest piece is the Ptolemy II coin dating from year 32, 254/3. On account of its similarities to the Eretria 1937 hoard, Picard suggests that the present hoard must too have been deposited around 245, while expressing doubt about the alleged place of discovery:⁵⁴ the presence of Chalcidian drachms and Ptolemaic silver are surprising in a Macedonian context. The Athenian tetradrachms are not all pi style: Dodson and Wallace's 9 displays the QD helmet ornament; 12 and 13 are here heterogeneous D2 and D3 on Plate 5.⁵⁵


⁵¹ O. Picard, *Chalcis et la confédération eubéenne* (Paris, 1979), pp. 153–63, pls. 27–29.

⁵² E. T. Newell, *Alexander Hoards 4: Olympia*, *ANSNM* 39 (1929), pp. 22–23.

⁵³ H. A. Troxell, "The Peloponnesian Alexanders," *ANSMN* 17 (1971), pp. 41–94.

⁵⁴ Picard (above, n. 51), p. 153.

⁵⁵ O. H. Dodson and W. P. Wallace, "The Kozani Hoard of 1955," *ANSMN* 11 (1964), pp. 21–28, Plates 3–6.

17. **Karditsa** (Paleokastro), Thessaly, 1929 = *IGCH* 162. The year of discovery is recorded in a manuscript note in the Athens cabinet. The Athenian tetradrachms, four pi and three QD coins, are worn to very worn. The freshest pieces are the two tetradrachms from the same obverse die of Antiochus II, minted at Alexandria Troas during (according to Newell) the last years of his reign.⁵⁶ Hence the ca. 250 burial date given in *IGCH*. Nevertheless, the tetradrachms in the name of Antigonos visible in the tray of this hoard in Athens are four Pan-heads and one Poseidon-head/Apollo. At the time the hoard was announced both series were customarily attributed to Gonatas. But it has since been recognized that the Poseidon variety is represented only in much later hoards, and Merker has assigned it to Antigonos Doson.⁵⁷ The Karditsa hoard is the earliest in which the Poseidon variety appears. The tetradrachm (which bears the monogram  alone) was unknown to Merker and also to Mathisen, who argues however in favor of a new "high" chronology for these coins.⁵⁸ It appears quite possible that at least part of this coinage had been struck near the end of Gonatas's long reign. A burial date in the years 245–240 would allow for the presence of this tetradrachm and the fine condition of the two Antiochus II tetradrachms.

18. **Thessaly** 1975 = *CH* 3 (1977), pp. 9–17, 43. Of the eight Athenian tetradrachms belonging to this small hoard (probably a savings accumulation, which would explain the paradoxically good condition of certain coins), the author of the *CH* article, J. Morineau-Humphris, was able to examine and publish only two examples, 17 and 18 (QD). The most recent piece in the hoard was a Rhodian didrachm, 38, which is near the beginning of Ashton's series 4.⁵⁹ There is no reason to postulate a burial later than ca. 240.

⁵⁶ Newell (above, n. 38), p. 336.

⁵⁷ I. L. Merker, "The Silver Coinage of Antigonos Gonatas and Antigonos Doson," *ANSMN* 9 (1960), pp. 39–52.

⁵⁸ R. Mathisen, "Pan Heads and Poseidon Heads: Two Third-Century Macedonian Tetradrachm Types," *SAN* 16 (1985), pp. 29–35.

⁵⁹ Ashton (above, n. 31), p. 79, "Mnasimachus."

Period 3, before ca. 215

19. **Thebes**, Boeotia, 1935 = *IGCH* 193. This dispersed hoard included Athenian coins. The hasty notes made by Schwabacher and translated by Hackens⁶⁰ do not permit classification of the 7 tetradrachms "de style tardif III^e siècle": are they QD, or heterogeneous, or tetradrachms with symbols? All three classes appear on Svoronos's plate 23. The types of the fractions, uniformly recorded as drachms, were identified by Hackens as a pentobol, two hemidrachms, and a tetrobol. Can the rest of the hoard help to date these rarities? Five tetradrachms of Ptolemy II are probably among the latest elements. According to Ashton's recently developed chronology, the 14 Rhodian didrachms ("en grande partie bien conservés")⁶¹ were all struck in the first half of the third century. If one were thus to rely on the non-Athenian part of the contents, a burial of date of ca. 240 would be appropriate; if the hoard seen by Schwabacher in 1935 in an Athenian private collection happened to be incomplete, however, the dating would require re-examination. The rare Athenian fractions, the pentobol and tetrobol, have not been reported in any other hoard. Since both were quite worn, they were apparently struck a good deal earlier in the third century than the old 255–229 dating of Svoronos's plates 23 and 24. Accordingly, it is tempting to attribute the pentobols at any rate to the early 260s, the opening years of the Chremonidean War, when Attica was being protected by encampments of Ptolemaic troops; on the 14.24 g tetradrachm standard then in use in Egypt, these Attic pentobols would have been regarded as Ptolemaic drachms. For the hoard itself, it seems prudent to leave, as did Hackens, a rather wide span of perhaps ca. 240–225.

20. **Hija e Korbit** (eastern Albania) 1982. To judge from Gjongecaj's plates, in addition to the usual mass of Alexander drachms, the hoard contains some well preserved hellenistic tetradrachms.⁶² The most

⁶⁰ T. Hackens, "La Circulation monétaire dans la Beotie hellénistique: trésors de Thebes 1935 et 1965, pt. 1. Le Trésor de Thebes 1935 (Noe 1103)," *BCH* 1969, pp. 702–11.

⁶¹ Hackens, p. 704.

⁶² S. Gjongecaj, "Thesari i Hijes se Korbit," *Iliria* 1985, pt. 1, pp. 167–209, illus.

recent are the Seleucid 275 of Antiochus II (WSM 977) and 276 and 272 of Antiochus Hierax (WSM 1581 and a variant of WSM 1558e, with a new monogram). Among the Attalid tetradrachms there are two very fresh examples of Westermarck group 6A, probably from the end of Eumenes' reign (see above, hoard 10). A date of burial near 230 is probable. Of the 80 coins of Athenian type, only 33 are illustrated (some twice). Coins 4, 7, 13 (= 17), 19 (= 38), 22–25, 27, 30, 39, and 40 are QD style. The rather better preserved heterogeneous coinage is represented by eight photographed specimens.

21. **Carystos**, Euboea, 1945 = *IGCH* 177. Of the two lots unearthed, only the first has been published. Robinson's 75, 76, 78, and (the better preserved) 79 are Athenian QD tetradrachms.⁶³ This lot also contains a tetradrachm of Antiochus Hierax (WSM 1558, "c. 241 and later"), which permits the burial to be placed around 230.

22. **Sparta** 1908 = *IGCH* 181. Among the 42 Athenian tetradrachms illustrated on Svoronos's plate 29, at least seven are in the QD style: 10, 13, 14, 15, 18(?), 28, 31, and 41, most of them quite worn. The deposit's most recent coin is that of Antiochus Hierax (WSM 1574), and the date of burial was probably in the decade of 230–220.

23. **Sophikon**, Epidauria, 1893 = *IGCH* 179. Only parts of this underwater find have been illustrated.⁶⁴ Sv. 28, 10, 15, and 16 are examples of the QD coinage, to which must be added inventory items 821, 841, 848, 857, 876, and probably many others in the Athens cabinet. All the coins from this deposit bear evidence of severe corrosion, some even appear to have been partially melted: did a fire precede their going down with the ship? In any case, it is impossible to classify all 141 tetradrachms of Athenian type. The latest dated piece is a Ptolemy III of year B = 245/4. But as in the Corinth hoard below, there is a very fresh Aetolian tetradrachm, so the hoard must have been lost ca. 230–220.

⁶³ D. M. Robinson, *A Hoard of Silver Coins from Carystus*, ANSNNM 124 (1952), illus.

⁶⁴ Svoronos (above, n. 14) pp. 35–46, 1–945, pl. 1, 1–24, and Sv., pl. 28.

24. **Corinth 1938** = *IGCH* 187. The tabulation in Table 3 is limited to the great lot in Athens published by Noe⁶⁵ plus 15 tetradrachms anonymously given to the ANS in 1948 "In mem. E. T. N.... from an unpub. Corinthian hoard."⁶⁶ The ANS tetradrachms (1948.171.1–15) include 11 Alexanders, one Aetolian League, and three Athenian of "heterogeneous" type, here F15, 17, and 22. A third relevant lot is possibly that partially recorded by Varoucha⁶⁷ which was said to be from Corinth and to have contained about 30 Alexander and 114 Athenian tetradrachms.

IGCH 187 is the latest hoard in the series we have studied. Its date of deposition around 220–215 is assured, as Noe has shown, by the tetradrachm of Seleucus III. The Rhodian material ends with seven moderately worn didrachms of Ashton series 3. The very fresh Aetolian tetradrachms ought not to date much before 220.⁶⁸ Noe did not attempt to classify the Athenian tetradrachms. These span the entire range of the owl varieties with an overwhelming predominance of pi style. From all three lots we have catalogued 19 representative tetradrachms (15 with illustrations) chosen especially from among the "heterogeneous" groups, whose peculiarities, however, should not cause us to ignore the massive presence of the banal and heavily worn pieces of the fourth century.

2. COPPER AND GOLD IMPURITIES IN *QUADRIGITÉ* SILVER

Tables 4 and 5 present the results of non-destructive metallurgical analyses performed on a number of pi and QD tetradrachms in the early 1980s. The nine pi and three QD tetradrachms of Table 4, from the trays of the Cabinet des Médailles in Paris, were analyzed at the Orleans Cyclotron by protonic activation under the supervision of J. N. Barrandon as part of a larger program of investigation into the compo-

⁶⁵ S. P. Noe, "The Corinth Hoard of 1938," *ANSMN* 10 (1962), pp. 9–41, pls. 2–12.

⁶⁶ Note in ANS tray.

⁶⁷ I. Varoucha, "Acquisitions du musée numismatique d'Athènes," *BCH* 84 (1960), p. 487, h.

⁶⁸ Cf. Martin (above, n. 30), p. 67, and J. B. Scholten, "Anti-Macedonian Propaganda and the Chronology of the Aetolian League's Gold and Silver Coinage," *AJA* 91 (1987), pp. 269–70.

sition of Athenian silver.⁶⁹ The 15 *quadridigité* tetradrachms of Table 5 come from the American Numismatic Society's portion of the Pherai 1938 hoard. In contrast to the Paris-Orleans analyses, these 15 pieces were tested by instrumental neutron activation and results were obtained only for the diagnostic percentages of copper and gold. The analyses were run by Dr. Thomas Bauer at the Nuclear Engineering Teaching Laboratory at the University of Texas at Austin.⁷⁰ For purposes of this paper three brief observations will suffice.

1. There can be no question as to the reliability of the readings obtained. Using different analytical techniques, the separate French and American investigations revealed identical ranges of copper and gold impurities in the QD tetradrachms submitted for examination. For the 18 QD tetradrachms, the percentages of residual copper range from 0.89 to 2.77, with an average percentage of 1.74. The gold percentages range between 0.2 and 0.8, with an average of 0.365 percent. In the nine pi tetradrachms, however, copper made up only 0.012 to 0.059 percent (average 0.041). In seven examples the gold was only 0.004 to 0.009 percent, while two coins (Table 4, 8 and 9) had higher readings of 0.025 and 0.029 percent.

2. The extremely low copper and gold readings of the pi-style tetradrachms duplicate such readings as have been obtained from Athenian owl silver of the late sixth to mid-fifth centuries and basically confirm, not at all surprisingly, that the pi coinage was minted from domestically extracted Laurion silver, whose minimal levels of copper and gold impurities set it apart from other known ancient silver ores, as prior studies have shown.⁷¹

⁶⁹ See H. Nicolet-Pierre, "Monnaies archaïques d'Athènes sous Pisistrate et les Pisistratides (c. 545–c. 510)," *RN* 1985, pp. 23–44.

⁷⁰ Acknowledgement is gratefully made to the University Research Institute of the University of Texas at Austin for funding the analyses and to the American Numismatic Society for loan of the coins.

⁷¹ "All [analyzed fifth century] owls, both earlier and later, show remarkably consistent readings, which are lower in both gold and copper than for most other coinages tested; out of the forty coins analysed only seven exceed in one or both metals the limits of 0.25% copper and 0.04 gold. It thus appears that the fifth century coinage of Athens was remarkable not only for its purity but also for the regularity with which this was maintained, and that ancient eulogy of it was

TABLE 4

Analyses of Tetradrachms in the Cabinet des Médailles

<i>Inv. no.</i>	<i>Cu %</i>	<i>Au %</i>	<i>Pb %</i>	<i>Sn (ppm)</i>	<i>As (ppm)</i>	<i>Published</i>
<i>Pi-style</i>						
1 399	0.059	0.007	0.8	≤7	≤0.5	SNR 18*
2 396A	0.056	0.0055	0.57	≤6	≤0.4	SNR 22
3 R.2992	0.055	0.009	0.47	≤6	≤0.5	SNR 19
4 290	0.033	0.006	0.73	≤5	≤0.5	SNR 17
5 400	0.05	0.004	0.43	≤5	≤0.4	SNR 23
6 402	0.029	0.005	0.70	≤5	≤0.2	
7 394	0.012	0.007	0.50	≤5	≤0.2	
8 384	0.043	0.025	0.50	≤5	≤0.5	
9 1968.947	0.029	0.028	0.42	≤5	≤0.2	
<i>Quadridigité</i>						
10 397	1.55	0.75	0.42	800	7.5	Plate 3, 25
11 393	1.51	0.33	0.51	≤8	2.40	
12 1977.472	1.65	0.40	1.25	1300	5.2	

* J. Diebolt and H. Nicolet-Pierre, "Recherches sur le métal de tétradrachmes à types Athéniens," *SNR* 56 (1977), pp. 79-91, pl. 24. Note that the analytical readings presented here in Table 4 supersede the earlier results reported in the *SNR* article.

TABLE 5

Analyses of QD Tetradrachms at the ANS

	<i>Cu %</i>	<i>Au %</i>	<i>Illustrated</i>
1	1.90	0.34	
2	2.77	0.21	
3	1.53	0.25	
4	2.06	0.25	
5	0.89	0.50	
6	2.08	0.29	
7	1.74	0.35	
8	1.55	0.52	
9	2.33	0.27	
10	1.38	0.80	
11	1.82	0.33	
12	2.11	0.29	197*
13	1.83	0.22	198
14	1.52	0.40	199
15	1.17	0.30	200

* Martin (above, n. 30), Plate 11.

3. The greatly elevated gold and copper percentages of the QD tetradrachms bear no relation to the figures obtained from the pi and earlier Athenian owls and consequently identify the silver of the QD coinage as non-Attic. From the historical record, we have suggested (above, p. 7) that this coinage was created ca. 285 initially for the restriking of the 200 talents of foreign coin (and bullion?) that the Athenians received from kings hostile to Demetrius Poliorcetes. If minting continued beyond the 280s and ultimately required more than the 200 talents already received, the mint must have had to depend on silver supplied from foreign sources as, for example, additional royal subventions.⁷²

justified." C. M. Kraay and V. M. Emeleus, *The Composition of Greek Silver Coins, Analysis by Neutron Activation* (Oxford, 1962), p. 16. Later, p. 34, they mention "a typically Athenian composition with less than 0.5% Cu and less than 0.04% Au." Of the 26 genuine Athenian archaic owls analyzed by Nicolet-Pierre, Barrandon, and Calvez (above, n. 69), pp. 38–39, table 5, all had copper readings below 0.05 percent, far below Kraay's 0.25 or 0.5 percent Attic threshold. Similar results from X-ray fluorescence of more than two dozen archaic owls, are reported by E. Pászthory and Silvia Hurter, "Metallurgische untersuchungen an archaischen Münzen aus Athen," *SM* 31, 124 (Nov. 1981), pp. 77–86, and E. Pászthory, "Archäometrische untersuchungen an archaischen Münzen Athens," *SM* 32, 126 (May 1982), pp. 30–36.

⁷² For instance the 50 talents procured from Ptolemy II in 282 B.C.; Shear (above, n. 3), p. 3, lines 50–55, with pp. 25–27.

A DIALOGUE OF POWER
IN THE COINAGE OF ANTONY AND OCTAVIAN
(44–30 B.C.)

(PLATES 7–8)

ROBERT NEWMAN

In his article, "Numismatics and History,"¹ A. H. M. Jones chided those numismatists who regard coin types and legends too highly. Jones would restrict numismatics to an ancillary status in relation to history and he offered suggestions for practical avenues of research which would better aid historians in understanding antiquity. To support his contention that numismatists engage in fanciful interpretations of coin types, Jones pointed out that, in antiquity, types were unimportant, since no analyses of types exist in the literary sources;² he also noted the inability of non-Latin speakers outside of Italy to read Latin, and the indifference of the educated class who "had something better to read than the two or three words on a denarius."³

¹ *Essays Mattingly* (Oxford, 1956), pp. 13–33.

² Jones contradicted himself later in this essay, p. 15: "In fact we happen to know from John of Ephesus...that in the sixth century the familiar personification of Constantinople on the solidi was taken for a figure of Aphrodite by the general public, and, when Tiberius substituted a cross, it was inferred that his predecessor Justin II had been a cryptopagan." Although the inhabitants of the Byzantine empire mistook the reverse type, they, nevertheless, noticed and talked about it enough for it to be considered worthy of mention by John of Ephesus. Contrary to Jones's contention, ancient people did discuss coin types and ancient writers did record the meaning of such types.

³ Jones (above, n. 1), p. 15.

C. H. V. Sutherland⁴ answered Jones by defending the interpretation of types by numismatists. Sutherland's own subjective treatment of types, however, did not provide a final solution, and the problem resurfaced in a subsequent article by A. Wallace-Hadrill, in which he objected to the numismatists' fanciful understanding of the *aequitas* type used by Galba.⁵ Sutherland once again responded;⁶ he defended coins as a true source of historical information against historians who reject numismatic evidence in favor of the less trustworthy literary or epigraphic record. More importantly he suggested a new understanding of types and legends, using a phrase of Grierson's,⁷ that we can look to coinage to "tell us something about the State itself."

If Grierson and Sutherland are right, a fruitful study of coin types and legends must have a different perspective, looking rather to the intention of the issuing authority and not to the effect on the recipients of the coins. Whether the message was seen or not plays a secondary role for understanding the message, since the effect which coin types and legends had on the users of the coins really cannot be substantiated or measured, and a study of this effect can at best be purely subjective. In order to test the correctness of this new perspective, we will examine the coins issued by Antony and Octavian from the death of Caesar in 44 B.C. until Antony's death in 30 B.C.⁸

⁴ "The Intelligibility of Roman Imperial Coin Types," *JRS* 49 (1959), pp. 46–55.

⁵ "Aequitas," *NC* 141 (1981), pp. 20–39.

⁶ "The Purpose of Roman Imperial Coin Types," *RN* 25 (1983), pp. 73–82.

⁷ *Numismatics and History* (1951), p. 6.

⁸ For the purpose of this investigation, I have dealt specifically with the coinage of Antony and Octavian. Although the coins of the other commanders and of the Roman moneyers would have to be considered in a complete study of the propaganda of this period, these coins do not seem to have had a direct bearing on the numismatic dialogue between Antony and Octavian.

P. Wallmann, *Münzpropaganda in den Anfängen der zweiten Triumvirats (43/42 v. Chr.)* (Bochum, 1977), has already noticed some interactions in imperial coinage until 42. Other investigations of this nature, such as P. Hill, "Coin Symbolism and Propaganda during the Wars of Vengeance," *NumAntClas* 4 (1975), pp. 157–90, tend to use inaccurate chronology or to employ the subjective fantasy for which Jones criticized such numismatic studies. H. Grueber, *Coinage of Triumvirs, Antony, Lepidus, and Octavian Illustrative of the History of the Times*, rpt. from *NC* 1911 (New York, 1977), tried to show that the events of the period were reflected in the coin

To avoid subjectivity, a definitive chronology is necessary, since the normal problems of dating have been compounded by scholars who have assigned dates arbitrarily and contrary to historical evidence.⁹ Three criteria governed the present chronology. First, some coins can be dated with certainty; these coins serve as pegs on which to hang undated coins. Second, changes in the choice and arrangement of titles help to order the coins. Third, the undated coins can be grouped according to changes in portrait style. Despite local variations, the portraits of both imperatores changed discernably over time,¹⁰ reflecting an increasingly more realistic or more idealistic representation. The resulting chronology corresponds, with a few exceptions, to Crawford's chronology.¹¹ Illustrated coins are asterisked.

CHRONOLOGY OF THE COINAGE

43: Antony

- 43.1 Obv. Head of Antony r., bearded, lituus behind, **M ANTON IMP**
Rev. Head of Caesar r., laureate, capis behind, **CAESAR DIC**
Denarius, 488/1*

types chosen, but only in a general way, usually employing only coins of certain date. Grueber did not, however, show any direct connection among the coins of the imperatores.

⁹ For example, Grueber, *BMCRBGaul*, pp. 404–5, n. 2, and Sydenham, *The Coinage of the Roman Republic* (London, 1952), 1321 (hereafter, Sydenham), assigned Octavian's coin recording the title **COS** to 40, even though Octavian was only consul from August to November 43.

¹⁰ R. Martini, "Monetazione bronzea orientale di Marcus Antonius I," *RIN* 85 (1983), pp. 65–66, and "Monetazione bronzea orientale di Marcus Antonius II," *RIN* 86 (1984), pp. 48–51, overstated the case by insisting too strongly on "types" or styles of portraits (the "Barbatius," the "Silanus," and the "Turullius") by which he tried to date the issues and assign mints. The differences were not necessarily "models" for other portraits. In fact, the latter two "types" are represented by two coins and one coin respectively. The differences seem rather to be due to changes in Antony's own physiognomy and the die cutters' attempts to present fairly realistic representations of him.

¹¹ *Roman Republican Coinage* (Cambridge, 1974), pp. 94–102 (hereafter, *RRC*). The coins are accompanied by Crawford number except for the cistophors, which have a *BMCRREast* number.

- 43.2 Obv. Lituus, capis, raven, **M ANTON COS IMP**
 Rev. Simpulum, aspergillum, ax, and apex, **M LEPIDVS COS IMP**
 Denarius, 489/1
- 43.3 Denarius, 489/2
- 43.4 Obv. Lituus, capis, raven, **M ANTON IMP**
 Rev. Simpulum, aspergillum, ax and apex, **M LEPIDVS IMP**
 Quinarius, 489/3
- 43.5 Obv. Lituus, capis, raven, **M ANTON IMP**
 Rev. Victory standing 1.
 Quinarius, 489/4
- 43.6 Obv. Bust of Victory r.
 Rev. Lion r., **LVGV DVNI A XL**
 Quinarius, 489/5
- 43.7 Obv. Head of Antony r., bearded, behind lituus, **M ANTON IMP**
PRC
 Rev. Head of Caesar r., laureate, behind capis **CAESAR DIC**
 Quinarius, 488/2¹²

43: Octavian

- 43.8 Obv. Head of Octavian r., bearded, **C CAESAR IMP**
 Rev. Equestrian statue, standing 1, **SC**
 Denarius, 490/1, **ANS***
- 43.9 Obv. Head of Octavian r., bearded, **C CAESAR COS PONT AVG**
 Rev. Head of Caesar r., laureate, **C CAESAR DICT PERP PONT**
MAX
 Aureus, 490/2
- 43.10 Obv. Head of Octavian r., bearded, **C CAESAR III VIR RPC**
 Rev. Equestrian statue, standing r., **SC**
 Denarius, 490/3*
- 43.11 Obv. Head of Octavian r., bearded, **C CAESAR III VIR RPC**
 Rev. Head of Caesar r., laureate
 Denarius, 490/4

¹² This coin belongs to the period of the formation of the Triumvirate, since the normal number III is missing, *RRC*, p. 498.

- 43.12 Obv. Head of Octavian r., bearded, **C CAESAR IMP III VIR RPC**
PONT AVG
 Rev. Head of Antony r., bearded, **M ANTONIVS IMP III VIR RPC**
AVG
 Aureus, 493/1b*¹³

42: Antony

- 42.1 Obv. Head of Antony r., bearded, behind lituus, **M ANTONIVS III**
VIR RPC
 Rev. Head of Octavian r., bearded, **C CAESAR III VIR RPC**
 Aureus, 492/1*
- 42.2 Obv. Head of Antony r., bearded, behind lituus **M ANTONIVS III**
VIR RPC
 Rev. Head of Lepidus r., behind aspergillum and simpulum, **M**
LEPIDVS III VIR RPC
 Aureus, 492/2*
- 42.3 Obv. Bust of Victory r.
 Rev. Lion walking r. **ANTONI IMP XLI**
 Quinarius, 489/6
- 42.4 Obv. Head of Antony r., bearded, behind lituus
 Rev. Head of Sol r., radiate, **M ANTONIVS III VIR RPC**
 Denarius, 496/2*¹⁴

¹³ Wallmann (above, n. 8), p. 33, believed that this coin was a reaction to Antony's coins issued for the Triumvirate (42.1 and .2). I believe, however, that the coin preceded Antony's, issued before the Triumvirs entered Rome, since it bears the **IMP** title, which Antony's coins do not. Therefore, it is more probable that Antony's coins show a reaction to Octavian's and not vice versa.

¹⁴ Most authors place this coin in 42 after the battle of Philippi. Crawford puts the minting in the east, Grueber (*BMCRREast*, p. 486, 87 and 88) put it in Greece. Sydenham (1170) and E. Bernareggi, "La Monetazione in Argento di Marco Antonio," *NumAntClas* 3 (1983), pp. 79–80, and Martini (above, n. 10), pp. 26–27, placed the minting (I believe correctly) in Italy, especially because of the resemblance between the head of Sol on the reverse and the portrait of Sol from the Roman moneyer P. Clodius (*RRC* 494.20a). These authors all connect the coin with the victory at Philippi, taking the head of Sol as a symbol for the east. Given an Italian mint, the coin was probably produced before Antony left Italy for Greece, as he was collecting men and supplies in Brundisium. The head of Sol would then be symbolic of the east by anticipation, symbolic of the battle to come, rather than of the one just past.

- 42.5 Obv. Head of Antony r., bearded **M ANTON IMP**
 Rev. Distyle temple, head of Sol r. within **III VIR RPC**
 Denarius, 496/1¹⁵
- 42.6 Obv. Head of Antony r., behind lituus **IMP**
 Rev. Head of Sol r., radiate, **M ANTONIVS III VIR RPC**
 Denarius, 496/3*¹⁶

42: Octavian

- 42.7 Obv. Head of Octavian r., bearded, **CAESAR III VIR RPC**
 Rev. Equestrian statue l., rider holds lituus, in exergue rostrum
 tridens **SC**
 Aureus, 497/1*¹⁷
- 42.8 Obv. Head of Octavian r., bearded, **CAESAR III VIR RPC**
 Rev. Curule chair with wreath, on chair **CAESAR DIC PER**
 Denarius, 497/2
- 42.9 Obv. Head of Mars r., helmeted, **CAESAR III VIR RPC**
 Rev. Aquila, trophy, standards, **SC**
 Denarius, 497/3

41: Antony

- 41.1 Aureus, 517/1*¹⁸

¹⁵ The careless striking of this coin argues for its minting in the east, perhaps in Greece. It was probably struck immediately after the battle of Philippi, since Antony added the title **IMP** and dropped the beard which he wore until the defeat of Caesar's assassins.

¹⁶ This coin is an obvious barbaric imitation of *RRC* 496/2, probably minted while Antony was moving around Greece or the east after Philippi in order to collect money and punish the allies of Brutus and Cassius. The absence of the beard and the presence of the **IMP** title place it clearly after Philippi, see Martini (above, n. 10), p. 28. Bernareggi (above, n. 14), p. 80, claimed that the coin was minted in Gaul because of its stylization. Arguments of portrait similarity can be misleading, since the same die cutters could have been traveling with Antony. In any case, the portraits are not, in fact, particularly similar in style.

¹⁷ This coin was probably issued in 42, since its style and legend correspond to the other two coins which Octavian issued in this year.

¹⁸ Contrary to the theory of Martini (above, n. 10), p. 32, Barbatius must have issued these coins in 41, probably in the east. Barbatius could not have issued these coins in Greece in 40, because he left Antony after a disagreement and arrived back in Italy in time to cause problems for L. Antony who was being besieged by Octavian at Perusia in late 41 (Appian, *BCiv.*, 5.31).

- 41.2 Obv. Head of Antony r., **M ANT IMP AVG III VIR RPC M BARBAT QP**
 Rev. Head of Octavian r., bearded, **CAESAR IMP PONT III VIR RPC**
 Denarius, 517/2
- 41.3 Obv. Head of Antony r., **M ANT IMP AVG III VIR RPC M BARBAT QP**
 Rev. Head of L. Antony r., **L ANTONIVS COS**
 Denarius, 517/3
- 41.4 Aureus, 517/4
- 41.5 Obv. Head of Antony r., **M ANT IMP AVG III VIR RPC M NERVA PRO Q P**
 Rev. Head of L. Antony r., **L ANTONIVS COS**
 Denarius, 515/5
- 41.6 Obv. Head of Antony r. (sometimes with capis), **M ANT IMP AVG III VIR RPC M NERVA PROQ P**
 Rev. Head of Octavian r., bearded (sometimes with lituus) **CAESAR IMP PONT III VIR RPC**
 Denarius, 517/6
- 41.7 Aureus, 517/7
- 41.8 Obv. Head of Antony r., behind capis, **M ANT IMP AVG III VIR RPC L GELL Q P**
 Rev. Head of Octavian r., bearded, behind lituus, **CAESAR IMP PONT III VIR RPC**
 Denarius, 517/8
- 41.9 Obv. Head of Antony r., **M ANTON IMP III VIR RPC AVG**
 Rev. Head of Octavian r. (sometimes bearded), **CAESAR IMP PONT III VIR RPC**
 Denarius, 528/3¹⁹
- 41.10 Aureus, 516/1
- 41.11 Obv. Head of Antony r., **ANT AVG IMP III VIR RPC**
 Rev. Fortuna with rudder, cornucopia, stork, **PIETAS COS**
 Denarius, 516/2

¹⁹ This coin belongs to the year 41 because of the similarity of titulature with the coins minted by Barbatius, Nerva, and Gellius. The portrait is similar in style to theirs, and was probably issued somewhere in the east.

- 41.12 Obv. Head of Antony r., lituus behind, **M ANT IMP III VIR RPC**
 Rev. Fortuna with rudder and cornucopia, **PIETAS COS**
 Denarius, 516/3*
- 41.13 Aureus, 516/4
- 41.14 Obv. Head of Antony r., lituus behind, **M ANT IMP III VIR RPC**
 Rev. Fortuna standing l. with censor and cornucopia, **PIETAS COS**
 Denarius, 516/5

41: Octavian

- 41.15 Obv. Head of Octavian r. (sometimes bearded) **C CAESAR III VIR RPC**
 Rev. Club, **BALBVS PRO PR**
 Denarius, 518/1
- 41.16 Obv. Head of Octavian r. (sometimes bearded) **C CAESAR III VIR RPC**
 Rev. Equestrian statue galloping l., **POPVL IVSSV**
 Denarius, 518/2²⁰

40: Antony

- 40.1 Obv. Head of Antony r., lituus behind
 Rev. Caduceus between two cornucopiae on globe, **M ANT IMP III VIR RPC**
 Denarius, 520
- 40.2 Aureus, 521/1*
- 40.3 Obv. Head of Antony r., lituus behind **ANT IMP III VIR RPC**
 Rev. Prow, star above, **CN DOMIT AHENOBARBVS IMP**
 Denarius, 521/2
- 40.4 Aureus, 528/1²¹
- 40.5 Obv. Head of Antony r., star beneath, **M ANTON IMP III VIR RPC**
 Rev. Head of Octavian r., bearded, **CAESAR IMP III VIR RPC**
 Denarius, 528/2

²⁰ Obverse die linkage with the previous issue demonstrates that this coin was issued in Gaul in 41 by Balbus; see *RRC* 518.

²¹ This coin belongs in the year 40 because its titulature is similar to that of the coins which Octavian issued after the Treaty of Brundisium.

- 40.6 Obv. Head of Antony r., **M ANTONIVS IMP III VIR RPC**
 Rev. Head of Octavia r.
 Aureus, 527

40: Octavian

- 40.7 Obv. Head of Octavian r., bearded, **C CAESAR III VIR RPC**
 Rev. Thunderbolt, **Q SALVIVS IMP COS DESIG**
 Denarius, 523

39: Antony

- 39.1 Aureus, 522/3
 39.2 Obv. Lituus and capis, **M ANTON IMP AVG III VIR RPC**
 Rev. Thunderbolt, jug, and caduceus, **L PLANCVS IMP ITER**
 Denarius, 522/4
 39.3 Aureus, 522/1
 39.4 Obv. Lituus and capis, **M ANTON IMP AVG III VIR RPC**
 Rev. Thunderbolt, jug, and caduceus, **L PLACVS PRO COS**
 Denarius, 522/2
 39.5 Obv. Head of Antony r., ivy crown, **M ANTONIVS IMP COS**
DESIG ITER ET TER
 Rev. Cista with head of Octavia and snake, **III VIR RPC**
 Cistophor, *BMCRREast* 133
 39.6 Obv. Jugate heads of Antony with ivy crown and Octavia,
M ANTONIVS IMP COS DESIG ITER ET TER
 Rev. Cista, above Bacchus with thyrsus, **III VIR RPC**
 Cistophor, *BMCRREast* 135
 39.7 Obv. Head of Antony bearded, lituus behind, **M ANT IMP III VIR**
RPC
 Rev. Nude male standing r. with scepter, cloak, and branch,
P VENTIDI PONT IMP
 Denarius, 531²²

²² For the date of this coin, see T. V. Buttrey, "The Denarius of P. Ventidius," *ANSMN* 9 (1960), pp. 95–108. I believe Buttrey's contention is correct, but some of his argumentation is wrong. Antony is never represented as wearing a beard after 42. The coin which Buttrey used as proof that he does sometimes wear a beard after 42 was minted, in fact, in 42. Secondly, Antony really does abandon the use of the lituus on his obverses in 40. The lituus that appears on only one of the cistophors of 39 was

39: Octavian

- 39.8 Obv. Head of Octavian r., bearded, **CAESAR IMP**
 Rev. Head of Antony r., **ANTONIVS IMP**
 Aureus, 521/1
- 39.9 Obv. Head of Octavian r., bearded, **CAESAR IMP**
 Rev. Caduceus, **ANTONIVS IMP**
 Denarius, 529/2

not placed directly behind Antony's portrait, as on previous coins, but directly below the portrait, and is actually made part of the ivy wreath border. This change of position suggests that this lituus does not play the same iconographic role as on previous coins. I do not think, however, that these errors affect his conclusion, since, if the coin is assigned to a date earlier than 42, scholars are forced to invent imperial acclamations for Ventidius as, for example, Bernareggi (above, n. 14), p. 79.

The major objection to the late dating is Antony's beard. The problem disappears, however, if we recognize this as a copy of his portrait on 42.4. This coin is unusual since it shows a full, somewhat square head, instead of the rounder portrait which became popular after 42. Ventidius's coin must have been based on the earlier depiction; it certainly departs from the normal portraiture of Antony's coins, both pre- and post-Philippi.

Both Grueber (above, n. 8), pp. 30–31, and Hill (above, n. 8), p. 171, remark that the Ventidius denarius resembles some of the **PIETAS COS** issues (41.10 and .11) of L. Antony during the siege of Perusia in 41, and was, therefore, contemporaneous. The resemblance is only superficial, however; the portrait of the **PIETAS COS** coins, although larger than most of the other portraits, is still characterized by squatness and, since it is beardless, it cannot have been the inspiration for Ventidius's coin.

Another difficulty, which Buttrey did not mention, is that the crook of the lituus on Ventidius's denarius faces right as it does on all of Antony's coins prior to 41 (after 41 it faces left).

By assuming that Ventidius had a coin like 42.4 with him when he left Brundisium for the east in 40 after the agreement between Antony and Octavian (Appian, *BCiv.*, 5.65), the above problems disappear: the beard and the lituus would have been copied from a coin originally issued in 42. If Ventidius issued the coin immediately after his victory, he would have probably used local die cutters and an already minted coin as a model for Antony's portrait, since Antony was in Athens at the time and not present with the army. The presence of Antony's **IMP** title and the absence of his consul designate title can easily be explained: Antony had already resumed the title of emperor when Ventidius headed east, but Ventidius left Brundisium before the consulships for the next eight years were assigned. He would, therefore, have naturally added the **IMP**, but would not have known to include the other title.

- 39.10 Obv. Head of Antony r., **ANTONIVS IMP**
 Rev. Caduceus, **CAESAR IMP**
 Denarius, 529/3
- 39.11 Obv. Head of Concordia r., **III VIR RPC**
 Rev. Clasp hands around caduceus, **M ANTON C CAESAR IMP**
 Quinarius, 529/4
- 39.12 Obv. Head of Octavian r., bearded, **CAESAR DIVI F**
 Rev. Head of Caesar r., laureate, **DIVOS IVLIVS**
 Bronze, 535/1²³
- 39.13 Obv. Head of Octavian r., bearded, star before, **DIVI F**
 Rev. Laurel wreath, **DIVOS IVLIVS**
 Bronze, 535/2

38: *Antony*

- 38.1 Obv. Head of Antony r., **M ANT AVGV R III VIR RPC**
 Rev. Trophy (sometimes with prow) **IMP TER**
 Denarius, 536/4, **ANS**²⁴

²³ These two bronzes, 39.12 and .13, belong to year 39 because the portraits and titulature are similar to other coins issued by Octavian that year. Crawford, *RRC*, p. 102, dates the coins to 38, but adds a question mark. He also assigned the mint to Puteoli, but without any indication of why. The coins are best assigned to Gaul (where Caesarian sympathies would have been strongest), minted for Octavian's expedition to Gaul in 39 (Appian, *BCiv.*, 5.75). The argument of A. Alföldi and J.-B. Girard, "Guerre Civile et Propagande Politique: L'Émission d'Octave au nom du Divos Julius," *NumClasAnt* 3 (1984), pp. 147–61, that these bronzes were issued during the siege of Perugia in 41 because of lead balls from the siege bearing the inscription **DIVOM IVLIVM** is not persuasive. Octavian's use of his divine father only first became widespread around 39, as is evidenced by its proliferation in coins of that period. Perhaps the use of this legend on the lead balls at Perugia influenced the later legend. In any case, similarity does not imply contemporaneity. These bronzes do not show any sign of having been produced during a siege. The portraits are extremely fine: on 39.12, Octavian is actually in three-quarter profile, perhaps an attempt at copying a statue or bust in perspective. The edges of the coins are carefully filed so as to form a raised edge. These signs all indicate extremely careful and planned workmanship and speak against the sort of quick production necessary during a war or siege.

²⁴ I believe Martini's argumentation (above, n. 10), pp. 11–21, about the two types of arms, Parthian and Macedonian, on this coin is correct, and that Antony's third imperatorial acclamation must have occurred in late 39/early 38; the second and third acclamations must have occurred virtually simultaneously. Buttrey's arguments,

- 38.2 Obv. Antony armed standing r., **M ANTONIVS MFMN AVG IMP
ITER (or TER ?)**
Rev. Lion standing l. with sword, above star, **III VIR RPC COS
DESIG ITER ET TER**
Aureus, 533/1²⁵
- 38.3 Obv. Antony togate and veiled, standing r. holding lituus,
M ANTONIVS MFMN AVGVR IMP TER
Rev. Head of Sol r., radiate, **III VIR RPC COS DESIG ITER ET TER**
Denarius, 533/2, **ANS***
- 38.4 Obv. Head of Antony r., **M ANTONIVS MFMN AVGVR IMP TER**
Rev. Head of Octavia r., **COS DESIG ITER ET TER III VIR RPC**
Aureus, 533/3*

38: Octavian

- 38.5 Obv. Head of Caesar r., laureate, star on forehead, **IMP DIVI IVLI
F TER III VIR RPC**
Rev. **M AGRIPPA COS DESIG**
Aureus, 534/1²⁶

“Studies in the Coinage of Marc Antony,” Ph. D. diss., Princeton University, 1953, pp. 1–34, for a later date for the third acclamation depend on a much too noble understanding of Antony’s relationship to the Senate and assume that he intended to abide to a stricter understanding of republican customs and institutions that he actually did.

²⁵ This unique aureus was stolen in the Paris robbery of 1831; it had been, however, sketched by Patin and Morrell. M. Bahrfield, *Die römische Goldmunzeprägung* (Halle, 1923), p. 89, rightly maintained that the **ITER** of the drawings must be incorrect, since the other gold coins which record Antony’s patronymics **MFMN** only record the third acclamation, and that only one gold coin (a rare one at that) should alone record the second iteration seems unlikely. If **TER** is the correct reading, then we can see the importance Antony placed on his third acclamation, since notice of the second acclamation would be totally absent. If, however, **ITER** is the correct reading, then it would be the only notice of the second acclamation and was quickly succeeded by the third.

²⁶ The designation **TER** can only modify **IMP**, since the idea that this coin was minted after Antony’s death and marks the formation of a “third triumvirate” is absurd and without any historical foundation. This coin clearly belongs to the series which Agrippa issued as **COS DES** in Gaul in 38; see Bahrfield’s discussion (above, n. 25), pp. 101–3.

- 38.6 Obv. Head of Caesar laureate r., facing head of Octavian l., to r.
 DIVI F, to l. DIVVS IVLIVS
 Rev. M AGRIPPA COS DESIG
 Denarius, 534/2
- 38.7 Obv. Head of Octavian r., bearded, IMP CAESAR DIVI IVLI F
 Rev. M AGRIPPA COS DESIG
 Denarius, 534/3

37: Octavian

- 37.1 Obv. Around edge IMP CAESAR DIVI F III VIR RPC
 Rev. simpulum, aspergillum, capis, and lituus
 Denarius, 537/1, ANS*
- 37.2 Obv. Laurel wreath, within: IMP CAESAR DIVI F
 Rev. tripod and cauldron, COS ITER ET TER DESIG
 Denarius, 537/2*
- 37.3 Obv. Head of Octavian r., bearded, IMP CAESAR DIVI F III VIR
 ITER RPC
 Rev. simpulum, aspergillum, capis, and lituus, COS ITER ET TER
 DES
 Denarius, 538/1, ANS*
- 37.4 Obv. Tripod and cauldron, IMP CAESAR DIVI F III VIR ITER RPC
 Rev. Laurel wreath, within: COS ITER ET TERT DESIG
 Denarius, 538/2
- 37.5 Aureus, 540/1²⁷
- 37.6 Obv. Head of Octavian r., bearded, IMP CAESAR DIVI F III VIR
 ITER RPC
 Rev. Temple Divi Iuli with cult statue of Divus Iulius togate,
 veiled, and holding lituus, star on timpanum, on architrave
 DIVO IVL; around COS ITER ET TER DESIG
 Denarius, 540/2, ANS*

35: Antony

- 35.1 Obv. Head of Antony r., ANTONIVS AVGVR COS DES ITER ET
 TER

²⁷ Crawford (p. 102) dated this coin to 36, since it closed the Carbonara hoard, but, by doing so, left the year 37 unrepresented by aurei. For this reason, I have preferred to date this coin to 37, although nothing else speaks against a date of 36.

Rev. Armenian tiara, IMP TERTIO III VIR RPC
Denarius, 539²⁸

34: Antony

- 34.1 Obv. Head of Antony r., M ANTONI MFMN AVG IMP TERT
Rev. Head of Antyllus r., COS ITER DESIGN TERT III VIR RPC
Aureus, 541/1
- 34.2 Obv. Head of Antony r., ANTON AVG IMP III COS DES III III V
RPC
Rev. Head of Antyllus r., M ANTONIVS MFF
Aureus, 541/2
- 34.3 Obv. Head of Antony r., Armenian tiara behind, ANTONI
ARMENIA DEVICTA
Rev. Head of Cleopatra r., REGINAE REGVM FILIORUM REGVM
Denarius, 543²⁹

²⁸ This coin cannot have been issued in 36 as Crawford (*RRC*, p. 102) maintained, since Antony was not in Armenia at the time. Both Sydenham (1205) and Grueber (*BMCRREast*, p. 520, 172, n. 2) placed the coin in 35; Sydenham's reference that the reverse "alludes to Antony's campaign against Artavasdes, king of Armenia," cannot be correct since this campaign did not take place until 34. Grueber's supposition that the coin commemorates Antony's ceding Armenia to Ptolemy of Pontus is possible (although rejected by Bernareggi). The problem with dating this coin to 34, the year of Antony's campaign in Armenia, is that the coin bears the title COS DES ITER, and Antony was COS ITER in 34. Bernareggi (above, n. 14), p. 94, dates the coin to 34 by hypothesizing that Antony, when he resigned his second consulship in 34, could continue to call himself COS DES ITER. If this were so, why would he then continue to be COS DES TER in the coins after 34? Thus, this coin must be dated to 35 and must have some connection to the Armenian campaign, but not necessarily the one against Artavasdes. Perhaps Antony issued this coin as a reminder for his troops of the treachery they suffered at the hands of the Armenian king and refers to his plans to wage a campaign against Armenia in the following year.

²⁹ Although Crawford dated this coin to 32, his note (p. 102) connected it with "the assignation at Alexandria late in 34 of kingdoms to Cleopatra and her children." The minting of this coin must have taken place in 34, the year of Antony's Alexandrian triumph, since it would otherwise be without context. To assign the issue to 32 on the grounds that Antony was not yet officially divorced from Octavia in 34 is to deprive it of its most logical context and to attribute to Antony a nobility of motives which his behavior since 37 did not merit; P. Hill, "From Naulochus to Actium: The Coinages of Octavian and Antony, 36-31 B.C.," *NumClasAnt* 5 (1976), p. 123, is typical: "Although relations between Antony and Octavian were strained during 34,

33: Antony

- 33.1 Obv. Head of Antony r., **ANTON AVG IMP III COS DES III III V**
RPC
 Rev. **M SILANVS AVG Q PRO COS**
 Denarius, 542/1³⁰
- 33.2 Obv. Head of Antony r., **ANTON AVG IMP III COS DES III III V**
RPC
 Rev. **ANTONIVS AVG IMP III**
 Denarius, 542/2

32: Antony

- 32.1 Obv. Ship **ANT AVG III VIR RPC**
 Rev. Aquila, standards, **COHORTIUM PRAETORIARVM** (similar
 for all legions)
 Aurei and Denarii, 544, **ANS**³¹

31: Antony

- 31.1 Obv. Head of Antony r., **M ANTONIVS AVG IMP III COS TERT III**
VIR RPC
 Rev. Victory standing l. in laurel wreath, **D TVR** to lower r.
 Denarius, 545

the final break did not take place until late in the following year, and *even Antony would hardly have been so tactless* as to strike coins with Cleopatra's portrait until after the divorce of Octavia" (italics added). This estimation of Antony's character by Hill is very generous, but has little to do with history. Besides, the coin makes absolutely no claim one way or the other concerning Antony's personal relationship to Cleopatra; the types and legends are entirely of an official nature.

³⁰ Although Martini (above, n. 10), p. 66, was correct in seeing Antony's portrait on the Silanus coin as different from the normal type, his date of 35/34 is clearly too early, since the coin indicates that Antony was **COS DES III** at that time, a title which he could only first claim during and after 34 (since he was **COS II** in 34). His location of mint in Asia Minor must also be in error, since an inscription from Athens, IG² 2-3.4114 indicates that Silanus was quaestor proconsul (his title on the coin) at Athens.

³¹ I have put the legionary coinage in 32 for the sake of convenience. Antony probably struck this series between 33 and the battle of Actium in 31.

An examination of the datable coins shows that the imperial coinage falls into two important groups. From 44 to 40 the coins stress first association with Caesar and then the ostensibly republican authority conferred by the establishment of the Triumvirate. In addition, Octavian's production lagged behind Antony's; during this period, Antony was clearly the more powerful and Octavian needed greater strength before challenging him. In 39, however, Octavian began issuing a large number of coins and resurrected his connections with Caesar, now Divus Iulius, whereas Antony's coinage gradually decreased and increasingly stressed his republican titles in place of his former emphasis on Caesar.

Throughout the entire period, the coins of both imperatores convey an important message, their source for authority to rule, whether as heir of Caesar's power or as representative of republican forces. When we view the coins as contemporary and parallel productions, however, a second and more subtle message emerges. Each commander also indicated that his opponent had a lesser claim than himself to such legitimacy. For example, at the same time that Octavian began calling himself the son of the divine Caesar, a claim of succession which Antony could not make, Antony began multiplying his republican titles in order to contrast Octavian's monarchical ambitions with his own supposed republican and senatorial sympathies.

THE IMPERATORIAL DIALOGUE

MANIPULATION OF CAESAR'S MEMORY, 43-41 B.C.

Caesar's Portrait

After Caesar's assassination the use of Caesar's portrait visually demonstrated claims of succession and, therefore, authority for both commanders. Antony was the first to take advantage of Caesar's portrait. As his model, he took a coin featuring Caesar with veiled head and surrounded by the symbols of his priesthoods issued by C. Cossutius Maridianus (*RRC* 480/19) shortly before or after Caesar's death.

On a subsequent denarius issued by P. Sepulius Macer (*RRC* 480/20), Antony substituted his own portrait for Caesar's and replaced the pontifical apex behind the head with the augural capis, since Antony was not a pontifex (Plate 7, A). The coin, then, visually suggests Antony's claim to be Caesar's successor, especially since Caesar was the first person to place his own portrait on coins, a move which was interpreted by his enemies as a step toward hellenistic monarchy. Antony seems to have taken over this practice as Caesar's heir (which he claimed for himself) and not through a special grant by the Senate.³²

Antony's first coin (Plate 7, 43.1) issued as imperator during his campaign in 43 against D. Brutus at Mutina again used Caesar's portrait, this time on the reverse, to make his claim of authority. Caesar's crown and title together with Antony's mourning beard proclaim Antony as head of the forces to avenge Caesar's death. The parallelism of obverse and reverse, however, especially of the augural symbols, imply further that Antony was identifying himself with Caesar as Caesar's legitimate heir and successor to his power.

Octavian's coins reveal a much subtler manipulation of Caesarian information than Antony's had. In 43, as Octavian was pursuing Antony on orders of the Senate, he issued his first coin (Plate 7, 43.8) with his own portrait and imperator title on the obverse. The coin does not seem to refer directly to Caesar, but time and familiarity have dulled our appreciation of the bold obverse. First, the legend records Octavian's new name for the first time (an act not yet officially recognized by the Senate). The simple appellation, C. Caesar, spoke for itself and clearly proclaimed Octavian's status as Caesar's adopted successor. Part of this inheritance must also have been the title of commander, since Octavian had never received an acclamation and

³² For a description of this development, see Grueber (above, n. 8), pp. 11–17. Grueber maintained (*BMCR*, vol. 1, p. xlv) that Antony must have also received this privilege from the Senate. Given the sudden proliferation of self-portraits on the coins of all the imperatores of this period, many of whom certainly had not received such a privilege, such an unattested grant to Antony need not be assumed. Rather the representation on the obverse must have come to symbolize the right to hold the chief power in the state whether inherited, as in the case of Antony or Octavian, or assumed, as in the case of Brutus or Cassius.

technically possessed only *propraetorian imperium*, which made him inferior to the consuls who were accompanying him.

Since the obverse, correctly understood, makes a strong, yet subtle claim of Caesarian authority, Octavian was able to avoid copying Antony's blatant use of Caesar's portrait on the reverse, and instead represented the equestrian statue which the Senate voted in his honor in January 43; his authority came as defender of the Senate against Antony, who had been declared *hostis*.

After his defeat at Forum Gallorum in 43, Antony fled to join Lepidus at Lugdunum. In the meantime, the Senate refused Octavian his rightful recognition for the victory and commanded him to turn over the troops of the consuls to Brutus. Instead Octavian marched on Rome and forced the Senate to name him *consul suffectus*.³³ Afterwards, he returned to Gaul to complete the campaign against Antony.

While at Lugdunum, Antony and Lepidus issued a joint coinage (43.2, .3, and .4): on the obverse were augural symbols with Antony's name and title; on the reverse priestly symbols with Lepidus's name and title. The first coin of this series (43.2) added to emperor the title consul, although neither man held the consulship in that year; some scholars have seen this title as an abbreviation for proconsul.³⁴ Both men, however, had been condemned as public enemies by the Senate; their priestly symbols combined with their consular titles stressed their service to the republic in contrast to Octavian who did not yet even hold a high ranking public office.

Octavian consequently needed to justify his position in relation to the Senate and the other two commanders. For this purpose, he issued an aureus (43.9) with Caesar's portrait on the reverse. Balancing Caesar's civil title, *DICT PERP*, was Octavian's new title of *COS*. To counter the augural and priestly symbols on the coins of Antony and Lepidus,

³³ Appian, *BCiv.* 3.13.94; Dio Cass. 46.45. A. Alföldi, "Octavians Aufstieg zur Macht," *Antike und Abendland* 21 (1975), pp. 1–11.

³⁴ E. Babelon, *Description historique et chronologique des monnaies de la république romaine* (Paris, 1885), vol. 1, p. 131. Bernareggi (above, n. 14), p. 69, recognized the correct explanation: "vogliono presentarsi alle loro truppe non come degli avventurieri ma come esponenti della vita politica romana." Antony was consul in 44, Lepidus in 45.

Octavian added his priestly titles **PONT** and **AVG**; like Caesar, he also had the rare privilege of holding both priestly offices. Parallel to Octavian's priestly titles, Caesar's **PONT MAX** on the reverse recalled that he had made Octavian pontifex and designated him as his successor to the chief priesthood. Antony, however, had given this office irregularly to Lepidus, since, as an augur, he could not hold it himself and did not want to give the young Octavian so much power.³⁵ Thus, by taking Antony's first coin (43.1) as a model and adapting it to respond to the subsequent claims of authority which Antony and Lepidus made, Octavian, although young and relatively inexperienced, visually established himself as superior to the other commanders.

Augural Symbols

Since the time of Sulla, the symbols of augurship, the lituus and capis, were connected with imperatorial authority on coins.³⁶ Caesar's use of these symbols in his later coinage³⁷ emphasized his authority and drew attention to his membership in both the pontifical and augural colleges (normally membership in only one of these two was permitted). Thus, when Antony began minting coins on his own authority, he adopted Caesar's iconography of *imperium* and accompanied the parallel portraits of himself on the obverse and Caesar on the reverse with the same augural symbols. Since Antony held a weaker claim to direct familial connections with Caesar than Octavian, he emphasized the augural connections by almost invariably including a lituus behind his portrait until 40 (Plate 7, 43.1, 42.4, 42.6; Plate 8, 41.12).

Although Octavian was also an augur, he did not generally use augural symbolism on his coins, and the few occurrences of such

³⁵ Appian, *BCiv.*, 2.132.

³⁶ A. Alföldi, "The Main Aspects of Political Propaganda on the Coinage of the Roman Republic," *Essays in Honor of Harold Mattingly* (Oxford, 1956), pp. 85–87. For the importance of the augurate, see *PW*, s.v. augur. For the controversy surrounding Sulla's use of augural symbolism on his coins, see B. Frier, "Augural Symbolism in Sulla's Invasion of 83," *ANSMN* 13 (1967), pp. 111–18, E. Badian, "Sulla's Augurate," *Arethusa* 1 (1968), pp. 26–46, B. Frier, "Sulla's Priesthood," *Arethusa* 2 (1969), pp. 187–99, and E. Badian, "A Reply," *Arethusa* 2 (1969), pp. 199–201.

³⁷ E.g. *RRC* 466/1, 467/1, 468/2, 480/2, and 480/3.

symbols thus become noteworthy. He first put a lituus on his aureus of 42 (Plate 7, 42.7); the augur's staff is carried by the rider of the equestrian statue on the reverse. The presence of the legend SC and the rostrum tridens on the aureus shows that it must represent the same statue as the one represented on some denarii reverses of 43 (Plate 7, 43.8 and .10),³⁸ although in the earlier representation the rider does not carry a lituus. The lituus, therefore, was probably added to the statue as a challenge to Antony's universal use of this symbol and the claim of authority implicit in its use.³⁹

Octavian only twice again used the lituus; each occurrence responded to a corresponding appearance on Antony's coins. In 38 Antony issued a coin picturing himself on the obverse standing and dressed as an augur (Plate 8, 38.3). In 37 or 36, Octavian issued a coin representing a plan for the not yet built Temple of Divus Iulius (37.5 and Plate 8, 37.6). Conspicuous in the temple is a cult statue of Caesar dressed as an augur. This representation is surprising; gods were often represented as priests of their own cult, but the augur was not a cult priest. Caesar also made a clear distinction in his own official documents between his priestly and divine status. He included his title Pontifex Maximus on all of his inscriptions, except when the inscription referred to him as a god.⁴⁰ This distinction can also be extended to the lower-ranking augurate, making the cult statue of Divus Iulius as augur an anomaly. The coin, then, probably responded to Antony's coin of 38, an impression reinforced by the similarity in the representation of the two

³⁸ The Senate decreed the erection of this statue in Octavian's honor in January of 43; Dio Cass., 46.29.2; Appian, *BCiv.*, 3.8.51. D. Mannsperger, "ROM ET AVG: Die Selbstdarstellung des Kaisertums in der römischen Reichsprägung," *Aufstieg und Niedergang der römischen Welt* 2, 1 (Berlin, 1974), p. 938, n. 46; Wallmann (above, n. 8), p. 33; Bahrfield (above, n. 25), p. 63. Although Hill (above, n. 8), p. 174, dated both these coins without any reason to 40, he did recognize that they must have depicted the same statue, since the rostrum tridens of the second coin indicates the place where the statue of 43 was erected.

³⁹ Challenge to Antony's authority is also the theme of denarius 42.8, which pictures Caesar's throne and crown on the reverse. Antony had forbidden the display by Octavian of Caesar's throne and crown together with those of the gods in two games of 44. This reverse was actually an embarrassing reminder for the man who was now claiming to lead the attack on Caesar's assassins.

⁴⁰ S. Weinstock, *Divus Iulius* (Oxford, 1971), p. 31.

figures. Octavian's inclusion of the elaborate, but as yet unbuilt, temple visually demonstrates his superior position: Antony may have been an augur, but Octavian was the son of Caesar, not only augur, but also god.

Octavian's final use of the *lituus* was in 28 on a coin marking the conquest of Egypt in 30 (*RIC* 19, Plate 7, B). The *lituus*, which Octavian had never used with the obverse portrait up to this time, appears behind his head just as it had on Antony's coins prior to 40 (cf. Plate 7, 43.1). Octavian thus relied on general familiarity with Antony's use of the *lituus* in order to stress iconographically his own now undisputed claim as Caesar's heir and successor.

TITLE MANIPULATION

Antony and Octavian also tried to use coin legends to their advantage, even though these legends were often illegible, poorly struck, and, at times, not even on the flan.

IMP

Both Antony and Octavian assumed the title **IMP** in 43 (cf. Plate 7, 43.1 and 43.8), but dropped it once they entered Rome in late 43, since they could not hold this title in the city. Antony assumed the title once again in 42 about the time of the battle of Philippi (42.5), but Octavian did not, perhaps because of his longer stay in Italy, and because he was not yet strong enough to challenge Antony's assumed leadership.

Despite its validity since 42, Octavian suppressed the **IMP** title and stressed his authority by using instead **IIIVIR RPC**. He introduced a new policy, however, in 39 on coins struck in honor of the accord reached with Antony at Brundisium. He revived the title **IMP** in order to stress his political and military equality with Antony and suppressed the triumviral title since the Triumvirate had lost its real meaning (e.g. 39.8). Octavian's need to establish his superiority, especially in the wake of successes by Sextus Pompey, also accounts for the introduction at this time of a new title, **DIVI IVLI FILIVS** (39.12 and .13). Octavian thus tried to balance his own waning power between Antony's strength in the east and the renewed thrust by Pompey in Italy.

In reaction to Octavian's new claims, Antony began recording the third iteration of his imperatorial acclamation in 38, without any previous (or with perhaps only one previous) mention of his second iteration (Plate 8, 38.1). This sudden emphasis contrasted the successes of Antony's armies with the major losses Octavian was suffering in Italy. Later in the same year, Octavian responded to Antony's claim of superiority by using for the first time the praenomen imperatoris, i.e. he took the title *imperator* not simply as his title, but as his praenomen (replacing his own praenomen Gaius), an honor previously accorded to Caesar.⁴¹

The aureus of this series (Plate 8, 38.5) is unique among Octavian's coins, since it alone records an imperatorial iteration before Actium: IMP DIVI IVLI F TER. Octavian, like Antony, ignored the second acclamation and went directly to the third. The awkward placement of the iteration in the legend seems to indicate that it was added only as an afterthought. The grammatical connection of IMP and TER is not immediately apparent, especially since the *astrum Caesaris* interrupts the legend before the TER, visually separating adjective from noun. TER, however, cannot modify any other word, and its unusual placement was made necessary by the simultaneous introduction of the praenomen imperatoris, which shifted the title IMP from its normal position. Octavian himself seems to have noticed the awkwardness, since the other coins of this issue do not have the iteration (38.6 and .7). This awkwardness perhaps indicates a hastily constructed response to Antony's iteration and Octavian's need to reestablish his reputation as a successful general.

Consular Designations

In order to impress the users of his coins with his republican associations, Antony began around 39 to fill his coins with as many republican titles as possible. The most useful title to fill up the space, since it was the longest, was *consul designatus iter et tertio* (awarded by the agree-

⁴¹ For a discussion of the various opinions concerning Caesar's grant of the praenomen imperatoris and arguments in its favor, see Weinstock (above, n. 40), pp. 106–11.

ments at Brundisium in 40 and Misenum in 39). Antony took immediate advantage of this title (39.5); as a result, his titulature spilled over from obverse to reverse (Plate 8, 38.3). The crowded effect was meant to give the impression of loyalty to the Republic and the Senate; Antony used it particularly to offset the danger perceived in his increased hellenism during his eastern sojourn after 39. The cistophors (39.5 and .6) best illustrate this paradox: the republican titles of the surrounding legend are out of harmony with the portrait of Antony crowned with ivy as the young Dionysus.⁴³

In contrast, Octavian always kept his legends simple; as a result, he did not immediately record the designated consulships, which he received at the same time as Antony. When Octavian issued one coin in 37 (Plate 8, 37.2) with the *consul designatus* title and a second (Plate 8, 37.1) with *IIIVIR RPC*, Antony's influence can be seen, especially since the Triumvirate had lapsed on December 31 of 38. Since his problems with Pompey had caused a decrease in his popularity in Italy, Octavian adopted Antony's legend style in order to visually establish his authority in Italy as equal to Antony's authority in the east, the division of power which had been established by the Triumvirate.

After the Treaty of Tarentum, Octavian issued two more coins (37.3 and .4) which repeated the same types as 37.1 and .2. Both titles, however, appear on both coins, giving them the same crowded effect as Antony's coins. Octavian thus took advantage of the implication of loyalty to the Republic which Antony had tried to convey by piling up titles. He attempted to demonstrate his equality in power with Antony using similarly crowded coins, since he had the same titles, and his civil superiority to Pompey, who was no more than a rebel without civil status.

Priestly Titles

Both imperatores took advantage of the two-headed coins which they issued to mark the formation of the Triumvirate in order to contrast their priestly titles. Parallel legends supported by similar portraits, underscored the subtle variation of titles to the advantage of the issuing commander.

⁴³ Dio Cass 48.39.2.

Octavian issued the first coin of this series (Plate 7, 43.12); the titles are repeated from the aureus 43.9, except that **COS** has been replaced by **IMP III VIR RPC**.⁴³ The superficial identity of the titles which accompany Antony's portrait on the reverse with those of Octavian is belied by Octavian's including the title **PONT**, to which Antony was not entitled. This subtle addition upsets the equality which the double-headed coin attempts to establish and reinforces Octavian's superior status.

Antony, in turn, issued two coins in the name of the Triumvirate (Plate 7, 42.1 and .2). His portrait on the obverse was accompanied on one coin (42.2) by Lepidus's portrait and on the other (42.1) by Octavian's. Behind Antony's portrait on both issues is the *lituus*, symbolizing his augurship. Behind Lepidus's head are the *aspergillum* and *simpulum*, symbolizing his office as Pontifex Maximus.⁴⁴ No symbols, however, accompany Octavian's head, although both symbols were appropriate. The otherwise perfect symmetry of these two coins emphasizes Octavian's lack and establishes the same sort of superiority for Antony and Lepidus that Octavian had claimed on his own issues.

Lepidus's issue for the Triumvirate (*RRC* 495, Plate 7, C) follows the same pattern, demonstrating that the attempt of the commanders to stress superiority by title manipulation is not accidental. Here, the obverse with Lepidus's portrait proclaims his office of Pontifex Maximus, whereas on the reverse, Octavian was accorded not even one of his priestly titles.

In his eastern coinage of 41, Antony continued to use double portraits and parallel legends to stress his superiority over Octavian. Antony received the title **AVG**, whereas Octavian is only called **PONT** (e.g. Plate 8, 41.1). The addition of *Barbatius's* name and title on the obverse shows that the absence of Octavian's title was not due to space constraint, but done purposefully.

On another coin (Plate 8, 41.9), perhaps of the same year, Antony's **AVG** title is actually delayed to the end of the legend, whereas Octavian's **PONT** title remains in its normal place. The postponement

⁴³ This change was in accordance with the agreement reached at Bononia, whereby Octavian would resign his consulship upon becoming Triumvir, Appian, *BCiv.* 4.1.2.

⁴⁴ See their joint coinage, 43.2, .3, and .4.

of Antony's title attracts the user's attention, and the expected parallelism altogether obscures Octavian's title.

DIVI FILIVS

Octavian did not emphasize his priestly superiority to Antony, since the case was clear. Instead he began issuing coins with the title **DIVI IVLI FILIVS** in 39 in Gaul and in Rome. A divine father counted for more than any priesthood.

Octavian probably directed the publication of his divine filiation against Sextus Pompey rather than against Antony. Except for a short period after their meeting at Misenum early in 39, Octavian was continually at loggerheads with Sextus, who controlled the seas and kept the grain of Sicily and Africa from reaching Rome. Sextus had been attributing his naval victories to Neptune, calling himself the son of Neptune.⁴⁵ Octavian began a new effort against Pompey in 39 and began recording his own divine father on the coinage of that year. The revival of Caesar at this time also evoked memories of the last civil war, reminding Sextus that the victor at Pharsalus was now a god.

From Antony's perspective, however (and probably not without justification) Octavian's use of **DIVI F** also implied a claim to succeed to Caesar's sole rule. This shift in Octavian's publicity spurred Antony to emphasize titles which connected him more closely with the Republic and the Senatorial forces.

In 38, the year following Octavian's introduction of **DIVI FILIVS**, Antony suddenly began including his own official Roman patronymic among his titles, i.e. he added his father's and grandfather's names: **MFMN (MARCI FILIVS MARCI NEPOS, 38.2, .3, and Plate 8, 38.4)**. By presenting Antony as the offspring of republican forebears, the republican resonance of this patronymic underscored by contrast Octavian's attempt at succession implicit in his claim to be the son of the divine Caesar; Antony's ancestors were neither dictators nor gods.

⁴⁵ For example, see coin of Q. Nasidius with obverse legend **NEPTVNI** (*RRC* 483). Octavian's new propaganda thrust, which he could have by right begun using in 42, when Caesar was officially deified, coincided with the games of 40, where the populace greeted the statue of Neptune with cheering and publicly attacked Octavian; Dio Cass 48.31.5 and Suetonius, *Aug.* 16.

Antony certainly intended the obvious "normality" of this formulation to win over Senatorial support for himself.

At the same time, in 39, Antony also altogether abandoned using the *lituus* with its Caesarian resonance and began using the title *augur* itself as the first and most important of his titles. With one exception (34.3), the title is never absent from his coinage between 38 and the last coins issued before his death. In fact, on his extensive legionary coinage, issued in the years before the battle of Actium in 31, Plate 8, 32.1, Antony recorded only the *augur* title along with the ever-present triumphal title. In his last attempt to assert his authority, now as a representative of the Senate against Octavian's clear drive towards sole rule, Antony chose to emphasize these two republican titles. Unlike the office of *imperator*, which had taken on a Caesarian tinge, the *augurship* gave him real connections with Rome and republican traditions.

CONCLUSION

This study has shown that we must reevaluate our understanding of the imperial period and in general of the messages conveyed by coins. First, the great concord reached in 43 by the formation of the Triumvirate was merely a surface harmony. Historians usually see the first real breach between Antony and Octavian in 33, when Antony divorced Octavia, and Octavian began attacking Antony in the Senate.⁴⁶ As a result, they try to explain away any apparent prior breaches and accord to the two commanders extremely noble motives. The coins, however, reveal deep-seated rivalry and contention right from the beginning; neither side passed up an opportunity to outdo the other.

⁴⁶ A good example of this attitude can be found in Grueber (above, n. 8), p. 27: "Of the battles of Philippi we have no direct numismatic evidence. This may be accounted for in the circumstances that though Antony held the chief command in those engagements he did not wish to extol his own deeds above those of his colleague Octavian."

Second, Antony and Octavian certainly did have better and more pressing things to do than to read "two or three words on a denarius," and yet they were clearly concerned with the numismatic messages of the opponent. Although lack of evidence prevents us from assessing the effectiveness of coin types and legends on the general populace, the numismatic dialogue between Antony and Octavian shows that these two imperatores considered this effect important enough to merit their continuous attention and response. From the point of view of the issuing authority, then, the coins are a study in self-justification, not an attempt to deceive or convince others that something is true when it is not, but an attempt to manipulate evidence to strengthen one's position and to present this position in the best and most convincing possible light.

HERACLES AT SMYRNA

(PLATE 9)

C. P. JONES

The history and culture of Smyrna are illuminated in many ways by Dietrich Klose's recent monograph on the city's coinage under the principate.¹ The present study concerns the portrayal of Heracles on these coins; the second part also involves a speech of Smyrna's best known inhabitant in the Roman period, Aelius Aristides.

HERACLES AND APHRODITE STRATONIKIS

A series of issues running from the reign of Vespasian to that of Gordian III shows Heracles as if moving to the viewer's left, with a drinking vessel in his outstretched right hand, his club and lionskin held in his left (Plate 9, 1). This particular representation is known in no

¹ Dietrich O. A. Klose, *Die Münzprägung von Smyrna in der römischen Kaiserzeit*, Deutsches Archäologisches Institut, Antike Münzen und Geschnittene Steine, Band 10 (Berlin, 1987) (hereafter, Klose); note the important review by Ann Johnston, *Journal of Roman Archaeology* 2 (1989), pp. 319–25. Besides Klose, I have used the following special abbreviations: Cadoux, *Smyrna* = C. J. Cadoux, *Ancient Smyrna* (Oxford, 1938); *IErythrai* = H. Engelmann and R. Merkelbach, *Die Inschriften von Erythrai und Klazomenai* 1 and 2 (Bonn, 1972 and 1973); *ISmyrna* = G. Petzl, *Die Inschriften von Smyrna* 1 and 2,1 (Bonn, 1982 and 1987). I am grateful to the ANS, especially the late Nancy M. Waggoner, to the Department of Coins and Medals of the British Museum for supplying photographs of their coins, and to Glen Bowersock for his criticism.

other city except Temnos, which was a neighbor of Smyrna and borrowed other of its types (Plate 9, 2). It must depict a local cult statue of Smyrna, and indeed a plinth is sometimes visible. It seems impossible to associate this cult with any of the titles by which the god was known there.²

Within this group, a sub-set is formed by some closely related issues struck under Trajan. All were produced in a single year under the *stephanephoros* Claudius Proclos and the *strategos* Claudius Bion; since Trajan is Germanicus but not Dacicus, the date should be between 98 and 102 (Plate 9, 3).³ All these coins are of high denomination, units of five ("Fünfer") in the system of Klose,⁴ who describes the reverses thus: "They show Heracles in the form usual for coins of Smyrna, with cantharos, club and lionskin, behind him a goddess in long chiton and peplos, with scepter and sword, who crowns him or holds her right hand over his head. Heracles was the model and personal protector of Trajan, and often appears as such on the imperial coins. Trajan ascribed his victory over the Dacians to him, honoring him with special games, the *Ἡράκλεια Ἐπινίκια*. The connection of Heracles with a goddess crowning him recalls imperial coins in which Trajan is crowned by Nike (Plate 9, 4)."⁵ Klose elsewhere describes the second image simply as a "female figure," as do certain other catalogues, but "goddess" is surely right. It may be supposed that the goddess, like Heracles, is shown in a form readily recognizable to the Smyrnaeans.

Of the several goddesses or near-goddesses of imperial Smyrna whose image is known, almost all can be eliminated. The chief of these is the Mother of the Gods or "Sipylene Mother," who is always shown seated and never holds a scepter.⁶ The others are depicted standing, but lack

² Klose, pp. 30, 234–35, 238, 240–41, 246–47, 255, 274–76, 291, 301–3, 304, 309, and 310–13. Temnos: *SNGCopAeolis* 279, 282; *SNGvAulock* 1679; cf. Klose, p. 30. *Epikleseis* of Heracles at Smyrna: Cadoux, *Smyrna*, p. 213.

³ Klose, p. 246, gives a date "ca. between 100 and 105." For Claudius Bion note also *ISmyrna*, 642.

⁴ Johnston (above n. 1), p. 321, "Denominations."

⁵ Klose, pp. 15–16, with pls. 32–33, R 26–40; here, Plate 9, 3 = *BMC Ionia*, pl. 29, 3; *SNGvAulock* 7999. Imperial coins: H. Mattingly, *Coins of the Roman Empire in the British Museum* 3 (London, 1936), pl. 11, 10; 12, 4 (= Plate 9, 4 here); 13, 12.

⁶ Klose, pp. 25–26; on this cult, Cadoux, *Smyrna*, pp. 215–17.

the scepter and usually have one or more attributes missing here: thus the Amazon Smyrna has a double ax or a prow, Nemesis a bridle or a ruler, Artemis a bow, Roma a shield or other armor, Asia a cornucopia.⁷

There is, however, one goddess who appears to fit except for minor variations, and these do not exceed what is to be expected in depictions of a standard image.⁸ The cult of Aphrodite Stratonikis at Smyrna goes back to the period of Seleucid domination in the third century. Perhaps founded by Antiochus II, it subtly incorporated worship of his mother Stratonike, the daughter of Demetrius Poliorcetes.⁹ The goddess appears on coins of the city from the early second century to the last year of Augustus, and the image changes little. She has a calathos on her head and wears a long chiton; on some Augustan coins she also has a peplos and veil. In her right hand she holds a scepter: in her left, which rests on a column, she holds a statue of Victory, and this in turn holds out a crown in its right hand towards her head (Plate 9, 5–7).¹⁰

Both Aphrodite Stratonikis and the goddess of the Trajanic coins hold a scepter and are dressed in chiton and peplos. A notable difference is that the former holds the scepter in her right and the latter in her left, but this can be explained by the fact that the Trajanic figure holds a crown over Heracles' head; since this had to be in her right hand, the scepter is transferred to her left and the Victory is omitted. Of the other differences, one is that the Trajanic goddess has no calathos: but then she is always shown with the top of her head brushing the letters of the circumscription, whereas the coins of Aphrodite Stratonikis usually leave a generous space between the top of

⁷ For these, Klose, pp. 27–28 (Amazon), 28–30 (Nemesis), 31 (Artemis), 31–32 (Roma: identified by Klose as Athena, but see Johnston [above, n. 1], p. 321, “Types”), 32–33 (Asia).

⁸ L. Lacroix, *Les Reproductions de statues sur les monnaies grecques: la statuaire archaïque et classique* (Liège, 1949). See J. and L. Robert, *La Carie 2* (Paris, 1954), pp. 368–69, on the variations in the representation of the principal goddess of Kidrama.

⁹ To the bibliography in Klose, p. 25, n. 141, add notably L. Robert in *L'Épigramme grecque*, Fondation Hardt, Entretiens 14 (Geneva, 1968), pp. 282–83; Ch. Habicht, *Gottmenschen und griechische Städte* (Munich 1970), pp. 100–101; Th. Ihnken, *Die Inschriften von Magnesia am Sipylus* (Bonn, 1978), p. 56.

¹⁰ Generally, Klose, p. 25.

her head and the circumference. The other difference is the "short sword" which the catalogues ascribe to the Trajanic goddess. If they are correct, this may have to do with her military nature, but a doubt may be expressed. This sword seems to be extrapolated from a diagonal stroke about half-way down the part of the goddess's mantle which hangs from her left wrist, but this might perhaps be a part of the mantle's border.

The coins showing Aphrodite Stratonikis alone end in A.D. 14, and her last mention in history belongs to the year 22, when the Roman senate reviewed the asylum rights of the cities of Asia and confirmed those of the goddess. It has been thought that the temple diminished in importance after 26, when Smyrna received the right to build the temple voted by the province to Tiberius.¹¹ That may be correct, but an observation of Louis Robert proves that the sanctuary was still flourishing in the second century. An epigram of the satirical poet Ammianus runs thus (*Anth. Gr.* 11.97):

τῷ Στρατονικείῳ πόλιν ἄλλην οἰκοδομεῖτε,
ἢ τούτοις ἄλλην οἰκοδομεῖτε πόλιν.

The epigram was interpreted as far back as Planudes as a gibe against a fat man, but Robert showed that it concerned the sanctuary of Aphrodite Stratonikis, which Vitruvius also calls by the name of *Stratoniceum*. "In the second century A.D. it was desired to transform the sanctuary into a colossal building in the fashion of the age, like the enormous edifices of the time to be seen in Ephesos, Pergamon, and elsewhere. The poet judges that disproportionate in the context of the city, and makes an ironic plea: 'Build another city for the Stratonikeion, or for these [the inhabitants of Smyrna] build another city.'"¹² Ammianus's activity falls approximately in the reign of Hadrian, though it might also have included that of Trajan. If these coins do indeed show Aphrodite Stratonikis, it may be suggested that they are connected with the expansion of the Stratoniceum mentioned by

¹¹ Tac., *Ann.* 3.63.3 (asylum), 4.15.3; 4.56 (temple of Tiberius). For this view, Klose, p. 25.

¹² Robert (above, n. 9), pp. 282–83; *Opera Minora Selecta* 4, 84 (Collège de France, 1942–43). Vitruvius, 5.9.1.

Ammianus. Smyrna is known to have received benefactions from Trajan near the beginning of his reign, though their extent is unclear.¹³

It was a subtle gesture of the Smyrnaeans to show Trajan's favorite hero, Heracles, being crowned by Aphrodite Stratonikis. By now the goddess's connection with the historical Stratonike must have been almost forgotten, but not so her connection with Victory, implicit in her cult title and symbolized by the statuette of Victory offering her a crown. The Smyrnaeans now made the goddess herself offer a crown to the hero whom Trajan had associated with his own campaigns against the barbarians of Germany and Dacia, just as the emperor is crowned by Victory on imperial coins of these same years. Yet though the gesture was sophisticated, there was nothing in it inconsistent with Greek belief. The association of Aphrodite with war goes back to her origin as the Semitic Ishtar, and received sanction from Homer.¹⁴ The connection with Heracles, expressed in myth by his sexual exploits and his final union with Hebe, also appears in the cult. A hellenistic calendar of Erythrae in northern Ionia shows the triad of Heracles, Arete, and Aphrodite Strateia receiving joint sacrifice.¹⁵ In his speech *To Heracles* the sophist Aelius Aristides says of the god that "Aphrodite and Dionysos greeted [him] and bestowed fitting gifts on his rest from toils" (*Ἀφροδίτη καὶ Διόνυσος ἡσπάζοντο καὶ τὰς ἀναπαύσεις τῶν πόνων ἀξίως ἐδωροῦντο*).¹⁶ These words might almost stand as a commentary on the image displayed on the coins, and as it happens this speech is normally thought to have been delivered in Smyrna.

¹³ Dio Chrys. 40.14, cf. C. P. Jones, *The Roman World of Dio Chrysostom* (Cambridge [Mass.], 1978), pp. 107 and 138. Note also a rescript addressed by Trajan to Smyrna in 100/1 or 101/2: J. M. Reynolds, *Aphrodisias and Rome* (London, 1982), pp. 113–15, 14 (*ISmyrna* 593), with the comments of C. P. Jones, *AJPh* 106 (1985), p. 264.

¹⁴ W. H. Roscher, *Ausführliches Lexikon der griechischen und römischen Mythologie* 1, pp. 403–4; M. P. Nilsson, *Geschichte der griechischen Religion* 1³ (Munich 1967), p. 521 (skeptical); W. Burkert, *Greek Religion* (Cambridge [Mass.], 1985), p. 153.

¹⁵ *IErythrai* 2, 207, ll. 9–11, 59, and 85–86, with the discussion of Fr. Graf, *Nordionische Kulte* (Rome, 1985), pp. 262–64.

¹⁶ Aristid., 40.19; on this speech see below.

HERACLES "WARDEN OF ARMS"

The other Heracles coins of imperial Smyrna are smaller, pseudo-autonomous ones, and the obverses show only the god's head, usually facing right. The first series is dated to the reign of Domitian: the second, reckoned by Klose to run from about 160 to 200, is usually accompanied by an *epiklesis*, *Πρόφυλαξ* or (much more frequently) *Ῥοφύλαξ* (Plate 9, 8–9). Among those with the latter title, a group shows on the reverse his club and his bow in its case, a clear allusion to the legend on the obverse (Plate 9, 10).¹⁷ *Πρόφυλαξ* is frequent as a common noun, but as a cult epithet is known only for Heracles in Smyrna and Iasos and for Apollo on Amorgos; it also appears on Andros, but the name of the divinity is lost.¹⁸ *Ῥοφύλαξ* is by contrast very rare, being used as a common noun only for officers in the Macedonian and Roman armies, and otherwise only as an epithet of Heracles at Smyrna.¹⁹

Apart from the coins, Heracles has this title at Smyrna on two inscriptions, both involving the "general in charge of arms" (*στρατηγὸς ἐπὶ τῶν ὅπλων*). One of these is inscribed on a smallish base (20 × 30 × 35 cm): *Τ. Φλάουιος Πουλχεριανὸς στρατηγὸς ἐπὶ τῶν ὅπλων θεὸν Ἡρακλέα Ῥοφύλακα ἀνέστησεν*. It was a widespread custom for magistrates such as generals to set up statues either during or after their term of office.²⁰ The other inscription again appears to commemorate the setting up of a statuette. It is carved on a marble column, and begins [...] *Γέσσιος Φλάκκος στρατηγὸς ἐπὶ τῶν ὅπλων Ἡρακλεῖ*

¹⁷ Klose, pp. 31, 140–42, and 172–77. For the group showing club and bow, see Plate 9, 10 = *BMC Ionia* 211; *SNGCop* 1262; *SNGvAulock* 7986–87. The British Museum and Copenhagen catalogues are surely right to identify the object containing the bow as a case, not a quiver (*Köcher*), as the von Aulock catalogue and Klose.

¹⁸ Iasos: W. Blümel, *Die Inschriften von Iasos* (Bonn, 1985), 108. Amorgos: *IG XII*, 7,419. Andros: *IG Suppl. XII*, 269, cf. J. and L. Robert, "Bulletin épigraphique (1939–1940)," *REG* 1940, 92.

¹⁹ Officers: Athen. 12.538 B (Jacoby, *FGrHist*, no. 126, F 5, Ehippos), *IGR* IV, 733 and 736 (translating the Latin *armorum custos*).

²⁰ *ISmyrna* 770. On this practice, L. Robert, "Inscriptions d'Asie Mineure au musée de Leyde," *Hellenica* 11/12 (Paris, 1960), pp. 229–30, citing this inscription; Robert, in J. des Gagniers et al., *Laodicée du Lycos* (Québec and Paris, 1969), pp. 259–60.

‘Οπλοφύλακι; there follows a dating by the annual *stephanephoros* and then a list of officials beginning with the treasurer of the board of generals (ἐπίτροπος τῆς στρατηγίας).²¹

In Roman Smyrna, as in many cities of Asia Minor, the generals formed the principal board of magistrates, and it was natural that such officials revered Heracles, who was not only a vanquisher of monsters and malefactors, but was also connected with the physical and moral training of citizens, especially the *ephebes*. In another city of northern Ionia, Erythrai, Heracles received a dedication from the board of generals: in this city, where he was a major divinity, his connection with the excellence (ἀρετή) of the citizens was assured. In hellenistic Cyzicos, a relief set up by the generals and phylarchs shows Heracles clubbing an adversary to death.²²

The title of “general in charge of arms” seems to have been borrowed by Smyrna from its supposed mother-city, Athens. It first appears in the *Ath. Pol.* [Constitution of the Athenians], where the author uses the form στρατηγὸς ἐπὶ τοὺς ὀπλίτας of the chief of the ten generals.²³ By the second century of our era, when peace was more a concern of the Greek cities than war, the hoplite general had a responsibility which, though different, was still crucial to the public welfare, the grain supply and the price of bread. Philostratus reports of the sophist Lollianus: “He presided over the people of Athens as general in charge of arms (στρατηγήσας τὴν ἐπὶ τῶν ὀπλων). This official formerly held conscriptions and led in war, but now his concern is nourishment and the wheat-trade (τροφῶν καὶ σίτον ἀγορᾶς).” Philostratus goes on to tell how, when a riot occurred at the bakeries (ἀρτοποιώλια) and Lollianus was about to be stoned in an assembly, a Cynic calmed the crowd by saying, “Lollianus is not a bread-seller (ἀρτοποιῶλης) but a word-seller.”²⁴

²¹ *ISmyrna* 771.

²² Erythrae: *IErythrai* 2, 214; see now Graf (above, n. 15), pp. 296–316. Heracles and Arete: above, p. 69. Cyzicos: J. H. Mordtmann, “Zur Epigraphik von Kyzikos III,” *MDAI(A)* 10 (1885), pp. 200–203, 28; F. W. Hasluck, *Cyzicos* (Cambridge, 1910), p. 238.

²³ Arist., *Ath. Pol.* 61.1; see now P. J. Rhodes, *A Commentary on the Aristotelian “Athenaion Politeia”* (Oxford, 1981), pp. 678–79.

²⁴ Philostr., *VS* 1.23, p. 38, ll. 29ff. K.

Whenever the title had been introduced to Smyrna, in the imperial period it seems to have denoted very similar functions. The “general in charge of arms” was only one of a college, but appears to have been the most important member, and his term is sometimes used to date years, either in conjunction with or instead of the true eponymous magistrate, the *stephanephoros*.²⁵ He could be honored as “incorruptible” (*ἀπείραστος*) and was sometimes responsible for erecting statues voted by the people to eminent persons.²⁶ A passage of the *Martyrdom of Pionios*, which is set in Smyrna of the year 250, shows that “the general” had the grain supply among his chief functions. Pionios defends himself for not sacrificing before a large crowd in the agora, “and the people wanted to have a meeting in the theatre so that they could hear more there, but certain persons concerned for the general approached the templewarden Polemo and said, ‘Do not let him talk, in case they go into the theatre and there be a disturbance and an enquiry about the bread (θόρυβος καὶ ἐπιζήτησις περὶ τοῦ ἄρτου).’”²⁷ Another passage of the *Martyrdom* (10.7–8) shows that there had been a famine within recent memory, which may or may not be connected with the “enquiry about the bread.” Though Smyrna had several generals, it is a safe inference that, as at Athens, the one in charge of arms was the chief executive magistrate, and could be called “the general” without ambiguity.

Mommsen, who inclined to minimize the role of civic police in the *provinciae inermes*, held that “the στρατηγὸς ἐπὶ τῶν ὀπλῶν at Smyrna [was] of course an archaism (*Reminiscenz*) as much as the cult of Heracles ‘Οπλοφύλαξ.’”²⁸ Yet there is an evident connection between the general’s concern with the food supply and his control of the local armory, since as with Lollian and the unnamed general in the

²⁵ Generals in Smyrna: Cadoux, *Smyrna* p. 194; the references to the “general in charge of arms” are collected by Petzl discussing *ISmyrna* 770. Eponymate: *ISmyrna* 1, p. 239; 2, p. 163.

²⁶ *ISmyrna* 2, 645 (*ἀπείραστος*) and 634 (statues).

²⁷ *Pass. Pion.* 7.1 (H. J. Musurillo, *The Acts of the Christian Martyrs* [Oxford, 1972], p. 144); cf. Cadoux, *Smyrna*, 385–86.

²⁸ Th. Mommsen, *Römische Geschichte* V⁵ (Berlin, 1904), p. 324, n. 26. On the various police forces of the cities of Asia Minor, L. Robert, *Études anatoliennes* (Paris, 1937), pp. 98–100.

Martyrdom famine could always lead to violence. It is natural, therefore, that the general at Smyrna should pay homage to Heracles.

A passage of Aelius Aristides reveals a curious link between Heracles and the building which housed the whole board of generals, the *strategion*. Aristides' already mentioned speech *To Heracles* is dated by the author's age given in the subscription to the summer of 166.²⁹ Bruno Keil proposed Smyrna as the location of the speech, arguing from a passage in which Aristides talks of the god's epiphanies in different cities of the empire, Gades, Messene, and others. "But why should I speak of things far off? Our generals' office is like a sanctuary of Heracles (τὸ στρατήγιον ἡμῖν Ἡράκλειον ἔοικεν εἶναι), and he has been seen playing in it many times with certain 'balls of Heracles (σφαῖραι Ἡράκλειοι),' which are round stones of no slight weight. Their noise is heard, and he takes them from one part of the building to another and sets them down. There are other amazing instances of his appearance, so that though the generals' office is so public a building yet it has become a kind of shrine (ἄδυτον) for the god's manifestations (ἀκριβειαί)" (13). Commenting on the phrase, "our generals' office seems to be a sanctuary of Heracles," Keil observed, "Aristides speaks as a Smyrnaean: and the Metroon [22] is also the Smyrnaean one." That is surely right. Aristides passed all his professional life at Smyrna except for his stays at Pergamon and his various travels, and he considered himself to belong to Smyrna even more than to his native Hadrianoutherai.³⁰ Smyrna is the only city in which he uses the first person plural to refer to himself and the other citizens (17.2; 20.4; etc.). He elsewhere refers to the Metroon as "the most beautiful of temples ... of the goddess who protects the city" (ναὼν ὁ κάλλιστος...τῆς εἰληχίας θεοῦ τὴν πόλιν), and in the present speech his reference to Athens as the

²⁹ Bruno Keil, *Aelii Aristidis Smyrnaei Quae Supersunt Omnia*, vol. 2 (Berlin, 1898), p. 330 (48 years, 8 months). For the present purpose it is immaterial whether Aristides' birthday is computed as 8 October 117 (O. Neugebauer and H. B. van Hoesen, *Greek Horoscopes* [Philadelphia, 1959], pp. 113–14) or as 26 November of the same year (C. A. Behr, "Aelius Aristides' Birth Date Corrected to November 26, 117 A.D.," *AJPh* 90 [1969], pp. 75–77).

³⁰ Aristides 50.73, τῇ Σμύρνῃ προσήκει... τὸ ἡμέτερον, with Keil's note.

model of piety to all other cities (40.11) also suits Smyrna, which considered itself Athens' most successful colony.³¹

More recently Charles A. Behr has proposed Cyzicos as the location of the speech, but offers no argument other than his own reconstruction of the sophist's movements in 166.³² Behr translates the sentence to which Keil drew attention, "The Praetorium seems to us to be a Temple of Heracles": but *ἔοικε* meaning "seems" does not take a dative in classical Greek, and the position of *ἡμῖν* also suggests a dative of interest.

It will be recalled that coins of Smyrna show the head of Heracles with the unexampled title of "warden of arms" (*Ὀπλοφύλαξ*), some of them with his bow and club on the reverse, and that others call him "guardian" (*Πρόφυλαξ*). These coins combine with the strange tradition reported by Aristides about the general's building in a way that is decisive for Smyrna as the location of his speech. The same visitations which made the building "like an *adyton*" of the god also made him the "warden" of the arms stored within it. It may be guessed that there was a shrine of the hero in the same building, just as the building identified as the *strategion* of Athens may have had a shrine of a certain "commander hero" (*ἥρωος στρατηγός*).³³ It can also be guessed that the same building or an adjoining one housed the city's arsenal, and perhaps also its granary; at Pergamon the several arsenals on the northern part of the Acropolis appear to have stored both arms and grain.³⁴ Whether or not either guess is correct, it seems confirmed that the "general in charge of arms" at Smyrna had a position of practical importance, and that neither his title nor that of Heracles "warden of arms" were mere archaisms.

The juxtaposition of this passage of Aristides and the coins casts a curious sidelight on the religion of this sophisticated city at the apogee of its culture and prosperity. Aristides is not clear on all the details and might be taken to mean one of several things: that the god was seen in

³¹ Aristides 29.27, *τοὺς πατέρας ὑμῶν τοὺς Ἀθηναίους*, and generally Cadoux, *Smyrna*, p. 77.

³² C. A. Behr, *Aelius Aristides and the Sacred Tales* (Amsterdam, 1968), p. 102.

³³ H. A. Thompson and R. E. Wycherley, *The Athenian Agora 14: The Agora of Athens* (Princeton, 1972), p. 73.

³⁴ A. von Szalay and E. Boehringer, *Allertümer von Pergamon 10: Die Hellenistischen Arsenale* (Berlin and Leipzig, 1937), esp. pp. 25–28.

person, that the "balls" were seen moving under an invisible impetus, or that their noise and subsequent displacement were taken as evidence of his visitation. In favor of the first two there is the verb "has been seen," in favor of the third is that it was the easiest to manage by pious fraud. If the god was both seen and heard, then there is a contemporary parallel in the reports about the famous island of Achilles in the Pontos: "sailors have often seen a young man with blonde hair jumping about in armour, which is golden: others have seen him not at all, but have heard him singing a paean, while others have both heard and seen him."³⁵

The tradition at Smyrna seems to be a compound of several beliefs. One is the association of Heracles with gigantic objects. The most obvious are the Pillars of Heracles (στῆλαι Ἡράκλειοι), but there is also a curious story in Pausanias, again writing in the middle of the second century, about what must be another large boulder associated with Heracles, though this one was thrown at him and not by him: in Thebes Pausanias saw a stone called the "Moderator" or "Soberer" (Σωφρονοστήρ) which Athena threw at the hero when in his madness he was about to kill Amphytryon.³⁶ The notion that supernatural power can move superhuman weights, especially stones, is perhaps universal: Christian belief knows the stone of the Resurrection and also the miracles of saints who could control the movements of boulders merely by addressing them or by prayer.³⁷

The Smyrnaean tradition also seems to have a flavor of animism which makes it a "reminiscence" in a way not intended by Mommsen. These stones may once have been betyls or fetishes which were believed to guard the generals' building by themselves. The cult of stones is well attested in the Greek Mediterranean, if not so much so as in other areas. In southern India, "at Tirumala, in the North Arcot district, the keys of the temple jewel-chest used to be placed on a stone, which was believed to guard the temple by moving round it at night; one night it

³⁵ Max. Tyr. 9.7, cf. Philostr., *Her.* 56.2. On epiphanies in the second century, A. D. Nock, *Essays on Religion and the Ancient World* 1 (Oxford, 1972), p. 46, n. 88; L. Robert, "Addenda aux tomes I-X," *Hellenica* 11/12 (Paris, 1960), pp. 543-46.

³⁶ Paus. 9.11.2, 7.

³⁷ Thus the *Life of Theodore of Sykeon*, ch. 55 (p. 49, ll. 14 ff., Festugière).

killed a man who was accidentally locked in.”³⁸ If a similar belief originally surrounded the moving stones at Smyrna, it can easily be imagined how *Graeca interpretatio* would have introduced Heracles as the god who moved them.

KEY TO PLATES

1. Smyrna, Domitian, ANS
2. Temnos, Philip, ANS
3. Smyrna, Trajan, BM
4. Rome, Trajan, BM
5. Smyrna, 2nd.-1st. century B.C., ANS
6. Smyrna, 2nd.-1st. century B.C., ANS
7. Smyrna, Augustus, BM
8. Smyrna, 2nd. century A.D., ANS
9. Smyrna, 2nd. century A.D., ANS
10. Smyrna, 2nd. century A.D., BM

³⁸ W. Crooke in *Encyclopaedia of Religion and Ethics* XI 874, section 4 (c). On stone-fetishes and stone-cult in antiquity, G. F. Moore, “Baetylia,” *AJA* 7 (1903), 198–208; K. Latte, S. V. Steinkult, *RE* 3 A (1929), cols. 2295–2305; Nilsson (above, n. 14) 1, pp. 201–7.

THE STADIUM AUREUS OF SEPTIMIUS SEVERUS

(PLATES 10–13)

BEN L. DAMSKY

An aureus of Septimius Severus with a rare reverse design has attracted attention and discussion in the past, but no description has been satisfactory or complete.¹ A stadium is shown but the most important feature is a continuous narrative frieze of nine human figures celebrating games within. It is the aim of this paper to establish their rank or activity, generally through parallel representations on coins or in

¹ *BMCRE*, p. 216, 319 (mentioned in passing on p. cl); *RIC* 260 (mentioned in passing on p. 71); P. V. Hill, *The Coinage of Septimius Severus and His Family of the Mint of Rome* (London, 1964), p. 32, 804 (hereafter, Hill); P. V. Hill, "Notes on the Coinage of Septimius Severus and His Family, AD 193–217," *NC* 1964, p. 180 (hereafter Hill, "Notes"). The most accurate description to date of the interior figures is by Mattingly in *BMCRE*, who describes them as "runners, wrestlers, standing figures, wrestlers, seated figures." Cohen saw Severus seated, three spectators standing, two groups of wrestlers, and a standing figure holding a spear at the far left (H. Cohen, *Medailles Imperiales*, 2nd ed. [Paris, 1888], 571 [hereafter, Cohen]).

The author wishes to thank Michel Amandry, Donald Bateson, Andrew Burnett, Sarah Brown, Francis Campbell, Jo Carson, Caroline Damsky, Gunther Dembski, Richard Doty, Adam Goodheart, Hubert Lanz, Marit Jentoff-Nilsen, Helmut Jung, Cathy King, Catherine Lorberer, Margaret E. Mayo, William E. Metcalf, John Pett, Curtis Runnels, H.-D. Schultz, Jan Stein, Frank Sternberg, Khiat Tran, Cornelius Vermeule III, Hans Voegtli, and Alan Walker for their generous assistance. Particular thanks are due to Curtis L. Clay who was indulgent enough to comment on two drafts, and whose expertise improved this paper at numerous points.

other art forms, and to trace their iconography. Considering together the stadium aureus and the other relevant coins and artifacts enriches our appreciation of the traditions involved.

Obv.: SEVERVS PIVS AVG Laureate head right

Rev.: Stadium; PP above; COS III below

7.18 g \ Plate 10, 1

The reverse features an aerial view of a stadium, open at the left, with two tiers of arches on a heavy base. There are double-height arches at the left and center of the near arm of the stadium, at the rounded end, and at the left end of the far arm. Each arch of the upper tier contains one statue except the upper portion of the central arch which contains three, set on a ledge. At the top rim of the stadium, a row of palmettes projects from the far arm of the stadium. Within the stadium, nine figures on a ground line participate in games. Starting from the left are: a runner headed left with his hair in a bun; two figures boxing; a facing togate victor, lifting his right hand to his head, flanked by two facing figures—the figure on the left sounding a long trumpet and the figure on the right crowning the victor; two wrestlers engaged; and the emperor, seated left under a canopy with his right arm extended.

The perspective is both pleasing and naive. The curved line of the stadium top is convincing, as are the near facade and the convention of showing only the end arch of the far arm. Less successful are the palmettes on the far side (though they are decorative and this may be the real purpose for including them on the coin) and the arch at the curved end which is insufficiently oblique. The scale of the interior figures is exaggerated relative to the surrounding building, but even so they are remarkably small considering that they show differentiating attributes.

There are four known specimens of the stadium aureus. The type was first published by Donaldson, apparently based on the British Museum specimen.² Three additional examples have appeared at auction, but

² T. L. Donaldson, *Ancient Architecture on Greek and Roman Coins and Medals* (London, 1859; Chicago, 1966), p. 290 (hereafter, Donaldson). His table cited the "French Cabinet" as the provenance of the coin, but the Bibliothèque Nationale has no specimen. The British Museum, however, acquired its specimen from the Thomas collection in 1844, some years before the Donaldson book. It is most likely that

there appear to be no further specimens in other major public or private collections.³ Both obverse and reverse dies are shared by the four specimens which are in similar condition. The survival of four specimens from the same dies is not unusual for the Roman mint. The type does not occur on other denominations.

A single example of an obverse die link with a different reverse has been found, fortunately to a dated aureus.⁴ Plate 10, 2, shows the linked coin, an issue rare in silver and extremely rare in gold.⁵ As the

Donaldson saw the British Museum specimen, the reference being a misprint. This is buttressed by Cohen's citation of that specimen and not a Paris specimen which he normally would have cited. Donaldson described the building as a theater; curiously he felt confident that he could categorize the performance as comic and identify the central figure (the victor) as a female (probably misled by the toga). The reverse of the British Museum specimen is shown enlarged in E. Nash, *Pictorial Dictionary of Ancient Rome* (London 1961 and 1962), vol. 2, p. 388.

³ Hess-Leu 49, 27–28 April 1971, 398 (it is helpful that an enlarged view of the coin is included in the final plates), Sternberg 6, 25–26 Nov. 1976, 843, and Lanz 52, 1990, 544. The Sternberg specimen was later in the collection of Frank Kovacs and is held today by the author. Mr. Sternberg has kindly explained that the coin was in a group of rare and interesting Severan aurei from a collector in Goa, India. The Lanz piece too is said to be from India. On this provenance see W. E. Metcalf, "Roman Aurei from India," *ANSMN* 24 (1979), p. 123.

Curators at Berlin, Boston, Glasgow, London, New York, Oxford, Paris, and Vienna kindly checked their collections for examples of the stadium aureus type and for die links. The author is indebted to Curtis L. Clay, who searched through his collection of casts which additionally covers Athens, Bern, Bologna, Budapest, Cambridge, Copenhagen, The Hague, and Hanover.

The author would appreciate hearing from any readers with information about additional specimens—especially with different dies, die links, and provenances.

⁴ The author thanks Curtis L. Clay whose alert eye spotted the linked coin in *NCirc* March 1988, p. 49, 977.

⁵ There are only two specimens known to the author, the Spink piece and a specimen from the Niggler collection: Leu Münz. u. Med., 2 Nov. 1967, 1385. These share the same reverse die but have different obverse dies. The aureus is not included in *BMCRE* or *RIC*, but is 834 in Hill. This design is identical to the denarius of *BMCRE*, p. 253, 494, which shows Severus slowly riding left on a horse while holding a spear pointed to the ground in his right hand and a small Victory statuette in his left. Note that a typographical error in *BMCRE* gives the legend as COS II instead of COS III.

die linked coin is dated TRP XIII (December 10, 205–December 9, 206), the stadium aureus was probably produced between late 205 and early 207.⁶

THE HISTORICAL OCCASION

The specific nature of the stadium design suggests that some particular occasion was commemorated. Some authors have associated this coin with another rare type depicting games: the “ship-in-circus” (Plate 10, 3).⁷ If they do depict the same celebration, this suggests that they commemorate an event thought unusually memorable.

There seem to have been major celebrations involving games on four occasions under Septimius Severus: A.D. 196 when Severus returned from his eastern victories (but see below for a modification of this accepted idea); 202 when Severus celebrated his decennalia, his return from the east, and his joint consulship with Caracalla; 204 when the

⁶ Dies for aurei were clearly monitored closely and destroyed when wear was detected. There are many known cases of medallion dies reused over lengthy periods but one understands that medallion dies were valuable and each year's output limited enough that the dies did not wear out. An easy calculation shows that steady use of a die might involve 10,000 strikes in a single week. We know nothing directly about the life of a die, but 10,000 to 20,000 strikes is commonly estimated. For a recent publication touching on this subject and containing many references, see Giles F. Carter, “A Simplified Method for Calculating the Original Number of Dies from Die Link Statistics,” *ANSMN* 28 (1983), pp. 195–206 (especially p. 197.) A complicating factor in the present case is that we are concerned with a period in which production seems to have been unusually low; there might have been a period of several months with no output of aurei. Still it seems unlikely that the stadium piece was made more than a few months before or after TRP XIII (December 10, 205–December 9, 206).

⁷ The ship-in-circus piece is quite rare as an aureus. The London example has a head of Caracalla in a transitional style likely to be from 206, *BMCRE*, p. 209, 283; Paris has an exceptional specimen with the head of Severus, and an example recently appeared at auction: Sotheby's, 28 Nov. 1986, 97. Denarii of the type with heads of Severus, Caracalla, and Geta are known: *BMCRE*, p. 219, 343; p. 257, 508; and p. 245, 453, respectively. From the parallel of the silver, one can hypothesize the original existence of aurei with the head of Geta. Neither *BMCRE* nor *RIC* assigns a specific date to the stadium or ship-in-circus. Hill attributes them (along with the stadium aureus) to 206 and the aureus portrait of Caracalla fits that date.

Ludi Saeculares were held; and an occasion during the span 205–7 when the games depicted on the stadium aureus occurred—for a reason not yet established. It does not seem possible to associate a liberality with the striking of the stadium aureus.

Ancient literary sources tantalize with glimpses of celebrations, but do not allow us to specify the occasion of striking. Both Herodian and Dio mention the spectacular arena show of 202 and further discuss the release of 700 wild animals from a mock galley.⁸ Dio mentions another occasion, "...a gymnastic contest, at which so great a multitude of athletes assembled, under compulsion, that we wondered how the course could contain them all. And in this contest women took part...."⁹ One cannot help but note the correspondence between these games, remarkable enough to provoke comment in histories, and the subjects of the ship-in-circus and the stadium coins, respectively. Hill has convincing evidence that the ship-in-circus coins date from about 206, which suggests the possibility that the galley spectacle was repeated and makes an association with the stadium aureus quite likely.¹⁰

Further light is shed on the stadium and ship-in-circus types and the occasion(s) for their striking if we consider the precedents for numismatic treatment of games during the Roman Empire. Secular

⁸ Herodian 3.10.1–2 gives no details while Dio 77.1, cited in RIC, enthusiastically describes the ship and lists many of the animals. It has been convincingly argued by C. W. A. Carlson, "The 'Laetitia Temporum' Reverses of the Severan Dynasty Redated," *SAN* 1 (Oct. 1969), pp. 20–21, that the Dio text describing the ship with animals refers to the *Ludi Honorarii* which directly followed the *Ludi Saeculares*. Although he dates the coins to 206, he believes they are a commemoration of celebrations of 204.

⁹ Dio 76.16.1. *Scriptores Historiae Augustae* contains nothing significant about any of the celebrations.

¹⁰ Hill, "Notes," p. 180, makes some important points relevant to this section. 1) Coins with specific reference to the secular games were not restricted to 204; some were struck as late as 207. 2) Portraits of Caracalla on the ship-in-circus type are inconsistent with a date of 202. Furthermore, the Caracalla aureus of this type shares its reverse die with the Severus specimens. Hill assigns the stadium aureus to 206 "probably" but offers no strong evidence.

The device of a collapsing ship which contained animals for a spectacle was not new in 202. Dio Cassius records it over a century earlier, 62.12.2.

games were held by Augustus in 17 B.C., by Domitian in A.D. 88, and by Septimius Severus in 204. Augustus marked the event with five reverse types: a herald in his peculiar and distinctive costume; an inscribed *cippus*; a candelabrum in a wreath of garlands, *bucrania*, and *paterae*; Augustus and a herald flanking an altar; and finally, a rare ritual scene of Augustus distributing *suffimentum* from a platform to citizens. Domitian repeated the herald, put the *cippus* in a wreath, and made a composite type including the *cippus*, the candelabrum, and the herald. He also developed a series of pictorial views of the associated rituals, expanding on the scene Augustus showed. Severus showed three such ritual scenes with the legends **SAEVLARIA SACRA** and **FELICITAS SAEVLI** for his games of 204. He further featured Liber and Hercules standing side-by-side and flanking a *cippus*. All of Severus's coins associated with the secular games have some sort of identifying legend, a fact which argues against associating either the stadium or ship-in-circus types with the game of 204.¹¹

Centennial anniversaries of the founding of Rome were celebrated in 47 by Claudius, in 148 by Antonius Pius, and in 248 by Philip I. The event is not mentioned on the coins of Claudius. In the years preceding the actual anniversary date, Pius produced an impressive series of coins and medallions recalling many of the mythic episodes associated with the founding of Rome.¹² The celebration itself was marked on the coinage by two and possibly three types alluding to games: an elephant marching and a standing female personification with a lion at her feet, both with legend **MVNIFICENTIA AVG.**¹³ The "fulmen on pulvinar" denarius of Titus is probably an indirect reference to ceremonies related to games.¹⁴ Philip repeated the *cippus*, the elephant (now with

¹¹ It is known that coins were occasionally produced several years after the particular event they celebrate (above, n. 10). Conceivably these aurei could be retrospective pieces which reminded the populace of the secular games. If this were the case, however, we would expect the repeat of one of the identifying legends.

¹² There is a rare medallion with the same legend but a lion in place of the elephant, see, for example, J. M. C. Toynbee "Some 'Programme' Coin Types of Antoninus Pius," *Classical Review* 39 (1925), pp. 170–75.

¹³ *BMCRE* 1838 and 1840; and F. Gnechi, *I Medagliani Romani* (Milan, 1912), vol. 2, p. 12, 31 (hereafter, Gnechi).

¹⁴ *BMCRE* 536. The games marked the inauguration of the Colosseum.

mahout), and the wolf with twins. His addition was a set of exotic animals, presumably used in the spectacles.

Games other than the ones mentioned above were seldom noted on coins. The Colosseum was shown by Titus, who completed it, and Severus Alexander, who restored it. The Circus Maximus was featured by Trajan and Caracalla who expanded and restored it.¹⁵ Coins which depict an aspect of the performance itself were limited to a few simple types. A ceremonial table holding prizes for games was used as a reverse design on semises by Nero, Trajan, Hadrian, and Antoninus Pius.¹⁶ Domitian struck a quadrans showing a rhinoceros.¹⁷ It is likely that the series of aurei and denarii issued by Titus with divine insigniae resting on ceremonial seats shows us the honor done these representatives of godheads at games and thus refer indirectly to games.¹⁸

The most repeated games type was the elephant. Its first appearance was in 80 when Titus dedicated the Colosseum and presented one hundred days of games. Antoninus Pius's use of the elephant was mentioned earlier in this section. Commodus repeated the type in 183 and 184 (celebration of British victory?). In 197 Septimius Severus again used an elephant, celebrating his victory over Albinus and providing a grand gesture for his departure to the east. Caracalla and Geta adopted the type in late 211 and 212, perhaps a celebration

¹⁵ *BMCRE*: Titus, 190; Severus Alexander, 156; Trajan, 853; Caracalla, p. 439, †, and p. 477, 251.

¹⁶ *BMCRE*: Nero, 259 and 261; Trajan, 1068 and 1069 bis; Hadrian, 1277 (with head of Jove, so possibly for Capitoline Games); Antoninus Pius, p. 186, †. The consistent use of the small denominations is striking. Were these pieces thrown to the crowd? The prize table design was used repeatedly by many cities in the Greek half of the empire during the second and third centuries. It seems curious that the type should vanish at Rome just as it became most common in Asia Minor.

¹⁷ *BMCRE* 496. Mattingly and Toynbee, *Animals in Roman Life and Art* (Ithica, 1973), p. 126, have noted the references in Martial, *De Spect. Liber* 22.1–6, and Epigrams 14.52–53.

¹⁸ *BMCRE*: head of Titus, 49–70; head of Domitian, 97–103. The practice of parading the divine paraphernalia and providing the best seats for them is described in J. H. Humphrey, *Roman Circuses, Arenas for Chariot Racing* (Berkeley, 1986), pp. 78–83.

associated with a British victory or for their inaugural. Finally, Elagabalus made use of the type, though his celebration is uncertain.¹⁹

The selection of the ship-in-circus and stadium types was a break from precedent. Never before had any details of a performance or contest been attempted and, in the future, such ambitious designs for games were undertaken on only a few medallions.²⁰

The historians do not tell us of an event clearly worthy of an unusual celebration which they place in 206, but there are suggestive bits of evidence. The coin linked to the stadium piece (Plate 10, 2) is a good starting point. Hill has identified this pacing horseman type (coupled with the legend **SPQR OPTIMO PRINC**) with an equestrian statue voted by the Senate and erected in the Forum.²¹ It may however be true that other appearances of the type, without the dedicatory legend, are specific commemorations of "victorious" returns to Rome. This naturally includes as a corollary that parallel issues of the type showing the emperor aggressively galloping while aiming his spear forward are specific commemorations of departures, i.e. **ADVENTUS** and **PROFECTIO** types whether or not their legends are specific. Does

¹⁹ *BMCRE*: Titus, 42; Commodus, p. 788, ||, and 543; Severus, p. 47, 168; p. 56, 224; p. 148, 602; and p. 153, ✱; the explanation of these coins and their chronology is given by Curtis L. Clay in his Oxford B. Litt thesis and in his article "Roman Imperial Medallions: The Date and Purpose of Their Issue," *Actes du 8eme congrès internationale de numismatique*, New York-Washington, September 1973 (Paris/Basel, 1976), pp. 253-65. *BMCRE*: Caracalla, p. 474, 236; p. 438, 47; and p. 439, ✱; Geta: p. 429, † and §; p. 475, 239; Elagabalus, p. 595, 371. See n. 13 for references to Pius's elephants.

²⁰ The coins of Commodus showing a lion hunt repeat the design of a medallion of Hadrian, also with the legend **VIRTUS AVG**. They are a reference to the valor and virtue of the emperor and do not show a scene of personal participation in the amphitheater. Two medallions of Gordian III show details of performances and one of these is discussed at length below.

²¹ P. V. Hill, "The Monuments and Buildings of Rome on the Coins of the Early Severans, AD 193-217," *Essays Presented to Humphrey Sutherland*, R. A. G. Carson and C. M. Kraay, eds. (London, 1978), p. 60 (hereafter, Hill, "Early Severans"). Herodian 2.9.6 mentions having seen the bronze equestrian statue. The same type had been used by Trajan, *BMCRE* 445 (described incorrectly as holding a sword instead of a Victory) and 970. The type with arm raised in peaceful greeting (without the statuette) was used by several rulers, *BMCRE*: Domitian, p. 406, †; Hadrian, 430; Antoninus Pius, 744 and 1890; Marcus Aurelius, 575; and Commodus, 1729.

this die linked piece indicate that there was a frontier visit in about 206 and a subsequent celebration of games in honor of a significant success? The appearance of galley types dated to 206 makes it likely there was imperial travel that year.²² We have just seen that numismatic commemoration of games was quite rare, yet we hear from no historian of a victory nor was there a triumph. The explanation of this coin must lie elsewhere.

Septimius Severus honored Nerva in a surviving inscription dated 196, the centennial year of Nerva's accession.²³ The text refers to Nerva as "ancestor" and one suspects it was dedicated on the precise day of his election by the senate (September 19?). Severus must have been aware of the date of the original rise to power of the "dynasty" through which he traced his origin.²⁴ The year 206 was the one hundred and tenth anniversary of this accession and it is possible that Severus commemorated an "Antonine saeculum" in September.²⁵

The Capitoline games for which Domitian built his stadium were inaugurated in 86 so the year 206 was the one hundred twentieth anniversary of their first celebration. The Greek style athletics shown on the coin fit with the events of these games and one could interpret the figure seated at the end of the game frieze as Capitoline Jove. This would be parallel with the coin of Plate 12, 12 (discussed below) which has a seated Hercules in the stadium. But the seated figure on the

²² *BMCRE*: Caracalla, p. 255, †, and p. 346, 847.

²³ *CIL* 6.954.

²⁴ Coins with reverse legends announcing Severus to be the son of Marcus Aurelius were struck with several designs in 195. For examples see *BMCRE*, p. 41, †, and p. 140, 567–574.

²⁵ M. Grant in *Roman Anniversary Issues* (London, 1954) mentions a number of apparent commemorations of temple foundations which occur in multiples of 110 years. The idea is mentioned generally on p. 2, n. 7. Cases involving 440 year commemorations are on p. 27, n. 7, and p. 52, n. 2; 550 year commemorations are discussed on pp. 75, 110, 118, and 132; an example of a 1100 year celebration is on p. 153; and a possible commemoration of a 1110 anniversary is noted on p. 152, n. 6. The Nerva inscription of n. 24 is not the only evidence that Septimius Severus was aware of anniversaries associated with his adopted ancestors. A. R. Birley points out in *Septimius Severus: The African Emperor* (New Haven and London, 1989), p. 130, that Severus assumed the title "Parthicus Maximus," an honorific previously held only by Trajan, on 28 January 198, the exact centennial of Trajan's accession.

aureus hardly looks superhuman, and the selection of the one hundred twentieth anniversary seems unusual for a coin design completely without precedent. The only variation which could make this suggestion plausible to the present author would be the revival of the Capitoline Games after a period of nonobservance.

Another possibility is that the celebration of the stadium aureus was for the emperor's birthday. In April of 205 or 206 Septimius Severus had his sixtieth birthday, an event which was surely commemorated.²⁶

²⁶ Grant (above, n. 25) suggested that many coin types were timed to coincide with anniversaries of significant events. A. Chastagnol, "Les Jubiles decennaux et vicennaux des empereurs sous les Antonins et les Severes," *RN* 26 (1984), p. 104, traces commemorations of regnal dates and demonstrates how closely these were observed and commemorated. Delegations apparently traveled from all across the empire to be present on anniversaries of the accession day with the purpose of paying respect to the emperor, see Pliny, *Letters* 10: 52, 53, 102, and 103. Awareness of the emperor's birthday during his life is well studied by W. F. Snyder in "Public Anniversaries in the Roman Empire, the Epigraphic Evidence for Their Observance during the First Three Centuries," *Yale Classical Studies* 7 (1940), p. 225. He identified many inscriptions which are dated to the birthday of an emperor though they do not specifically mention a connection. Nevertheless, the number of such inscriptions is shown to be well beyond what a statistically uniform distribution would produce. There are also direct literary references. Suetonius mentions the celebration of Augustus's birthday, *Augustus* 57.1, and Dio refers to Caracalla's holding gladiatorial games in honor of his own birthday, 78.20.3. But perhaps most significant is the following phrase from Dio on Hadrian, 69.8.2, "On his birthday he gave the usual spectacle free to the people and slew many wild beasts....He also distributed gifts by means of little balls which he threw broadcast both in the theaters and in the Circus...." The word "usual" tells us that birthday games had come to be expected by the second century. The mention of animals (undoubtedly in the Colosseum), theaters, and the Circus tells us that there were multiple events, probably spread over several days.

While we have no direct evidence that "round" numbered birthdays were considered special, it is evident that there were vows for an emperor's fifth, tenth, fifteenth, and twentieth tribuneship. It is somewhat parallel that centennials of temple foundations, of accessions to power (above, n. 23), and of Rome's founding were honored. It is, therefore, not unlikely that a similar view was taken of personal birthdays.

Dio, 77.17.4 gives Severus's exact age at death and so indirectly fixes his birth as occurring on April 11, 145, but SHA, *Severus* 1.3, describes the year as 146. The date of Severus's birth is dealt with by J. Guey, "La Date de naissance de l'empereur

Caracalla's birthday was in the same month and it is possible that he had his twentieth birthday in 206, a coincidence which might have added to the significance of any celebration.²⁷ There is some difficulty in the proposition that the stadium aureus commemorates games for this occasion if the 205 date is correct, since April seems a little early for consistency with the die link. If 206 is correct, the fit is excellent and the proposition reasonable.

Another alternative is that the celebration we seek was in honor of Hercules and Bacchus, the patron gods of Lepcis Magna, birthplace of Septimius Severus. They received unusual prominence during his reign and the secular games of 204 were dedicated to their honor. Dio records that Severus constructed a temple to Hercules and Bacchus.²⁸ No date is mentioned, but the completion of a large temple would have required a significant time span, and it is hard to imagine that the project was undertaken until the defeat of Albinus or that the ceremony of dedication was held in Severus's absence. The likely interval for the temple dedication then becomes 202–8 and the probability that it was 206 is not remote.

There are extraordinary coin types of Septimius Severus, Caracalla, and Geta featuring Bacchus and Hercules which probably date from

Septime-Sevre d'après son horoscope," *Bulletin de la société nationale des antiquaires de France* (1956), p. 33. He presents astronomical calculations of planetary positions on April 11 of 145 and 146. Severus was known to be a devotee of astrology who prided himself on his imperial horoscope and since Guey detects favorable conjunctions in 145, but not in 146, he concludes the earlier date to be correct. This is ingenious and innovative but one wonders if interpretations unknown to us might have been used then.

²⁷ April 4, 186. Dio 78.6.5. See also R. O. Fink, A. S. Hoey, and W. F. Snyder, "The Feriale Duranum," *Yale Classical Studies* 7, p. 1. Snyder (above, n. 26), p. 260, believes *Scriptes Historiae Augustae*, *Caracalla* 6.6, to be an error.

²⁸ Dio 77.16.3, calls the temple "immense." Although it is natural to assume a site in Rome is understood, the location is not specified. It has been suggested that the temple was in Lepcis Magna, J. Hasebroek, *Untersuchungen zur Geschichte des Kaisars Septimius Severus* (Heidelberg, 1921), pp. 149–50. This thought is discussed by A. R. Birley in *Septimius Severus: The African Emperor* (New Haven and London, 1989), p. 151, with additional references in n. 11. A location outside Rome would make this suggestion for the celebration of the stadium aureus untenable. The gods in question are more accurately Shadrappa and Melqart.

206. Bacchus in a panther quadriga and Hercules at a feast are each on unique aurei of Caracalla.²⁹ Bacchus and Ariadne are on an aureus of Geta known in only a few specimens.³⁰ A unique aureus of Septimius Severus, only recently published, also seems relevant (see Plate 10, 4). The reverse shows Jove seated between standing figures of Bacchus and Hercules.³¹ Perhaps it is significant that this is the only known coin to share the reverse legend of the stadium aureus.³² Could these coins honor the gods of the new temple while the stadium aureus and possibly the ship-in-circus type as well commemorate the celebrations held in conjunction with the ceremony of dedication? An extension of this idea would be that a significant date, such as an imperial birthday or the one hundred tenth anniversary of the dynasty, might have been chosen for the temple dedication. If these coins do not stem from the same event, they are certainly close in time and may be evidence of a new practice. The elaborate designs and apparently small sized issue are suggestive of money medallions and it may be that they were presentation pieces of some kind.³³

One expects that there was a celebration of Severus's fifteenth year of rule in 207. This, however, does not seem likely to be the celebration of

²⁹ Panther quadriga: *BMCRE*, p. 255, * = Numismatic Fine Arts, May 16, 1984 (Garrett), 842. The feast of Hercules was the subject of an article by S. Hurter, "Ein Neuer Aureus des Caracalla," *SM* 30 (1980), p. 39. She dated the piece to 206 and showed two obverse die links. One link is dated 207; the other is undated. She suggested that the Geta/Bacchus aureus is associated with her new piece.

³⁰ *BMCRE*, p. 243, *.

³¹ P. V. Hill, "A New Gold Type of Septimius Severus," *NCirc.* 90, 5 (June 1982), p. 159. Hill suggests a date of 206 and associates it with the upcoming celebration of Severus's fifteenth regnal anniversary while noting a recollection of the secular games.

³² There is also the triumphal arch type which features the same two titles, but in the reverse order. *BMCRE*, p. 216, 320.

³³ See J. M. C. Toynbee, *Roman Medallions*, ANSNS 5 (New York, 1944) on presentation pieces and money medallions and Curtis L. Clay, "Roman Imperial Medallions: The Date and Purpose of Their Issue," *Actes du 8eme congres internationale de numismatique*, New York-Washington, September 1973 (Paris/Basel, 1976), pp. 253-65. Clay, p. 263, discussed the giving of coins or medallions as New Year's gifts and notes that the production of bronze medallions was halted by Septimius Severus in 196.

the stadium and ship-in-circus pieces since they do not include anywhere a mention of **TR P XIV** or **XV** as one would expect. This argument is particularly compelling in the case of the stadium aureus since the titles **PP** and **COS III** are given; if the point of the occasion is the office **TR P XV**, why mention the other two titles and not the central one?

In summary, the more likely candidates for the event which inspired the stadium aureus are the one hundred tenth anniversary of the rule of the dynasty to which Septimius Severus attached himself, the emperor's sixtieth birthday, and the dedication of a large temple to Hercules and Bacchus, gods for whom Septimius Severus felt a special attachment.

ARCHITECTURAL ASPECTS

The edifice on the stadium aureus has been variously described as a theater, colosseum, or circus, but Hill has convincingly argued that the presence of two tiers and the lack of a *spina* indicated that this is the stadium of Domitian and not the Circus Maximus.³⁴ Hill's conjecture that the palmettes at the rim represent spectators is, however, unacceptable.³⁵ There is good evidence that the palmettes are associated with the *velarium*, the canvas which shaded spectators.³⁶

³⁴ Hill, "Early Severans." Domitian built the stadium as the setting for the Capitoline Games, which he inaugurated in 86 honoring Capitoline Jove. See Suetonius, *Domitian* 4. These were Greek style games of the type depicted on the aureus, whereas the Circus was designed for chariot racing. Hill made the same arguments against the Circus as Donaldson (above, n. 2). E. Nash (above, n. 2), vol. 2, pp. 387-90, illustrates the reverse of the London specimen and describes it as the Stadium of Domitian. Grant (above, n. 25), p. 117, describes this coin as featuring the Circus Maximus and attempts to tie it to the centennial of Trajan's restoration of the Circus in 103. He was wrong on both the subject and the date of the stadium aureus.

³⁵ A possibility first mentioned by Mattingly in *BMCRE*. The artist, however, has been very careful in his detail on this coin and the devices in question do not look at all like people. The engraver did choose to omit the palmettes from the near arm of the stadium to avoid interfering with our view of the crucial interior action.

³⁶ First suggested by Donaldson (above, n. 2.) By chance there is a graffito which survived on a Pompeian wall which mentions the *velarium* there, *CIL* 4, 3884, "There will be a full card of wild beast combats and awnings for the spectators." Suetonius, *Caius* 26.5, "At a gladiatorial show he would sometimes draw back the awnings when

This same device was used on Colosseum coins which do show crowds of spectators. More decisively the Colosseum aureus of Severus Alexander clearly shows masts rather than palmettes at the top (Plate 10, 5). Certainly palmettes had appeared on architectural coin types under Trajan: atop his Basilica and the "grotto" or arch representing his aqueduct. These possibly depict acroteria or other architectural trim, but, in light of Pliny's reference to Caesar's covering the Roman Forum, it may be that these too are associated with awnings.³⁷ An additional piece of supporting evidence is provided by details of a terracotta relief of a Circus chariot race now in the British Museum (Plate 11, 6).³⁸ What seems at first glance to be only a decorative border at the top is actually part of the setting. The palmettes are connected by ropes, not garland swags, and the bar on which they appear to rest looks like a furled canvas secured by two coils of rope at each palmette. When one compares the shape and position of the palmettes on the coin with the relief, it seems likely that they are decorative finials atop the posts which supported the shading canvas.

Depictions of the Colosseum on sestertii under Titus and Severus Alexander provide close numismatic parallels to the stadium aureus.³⁹ Each of these presents an oblique aerial view showing both the external

the sun was hottest and give orders that no one be allowed to leave...." Lucretius 4.75, "Dark purple awnings (*vela*), when outspread in the public view over a great theater upon posts and beams, they tremble and flutter." Pliny, *Natural History* 19.24, "Linen cloths were used in the theaters as awnings (*tenta*), a plan first invented by Quintus Catulus when dedicating the Capitol. Next Lentulus Spinther is recorded to have been the first to stretch awnings of cambric in the theater, at the games of Apollo. Soon afterwards Caesar when Dictator stretched awnings over the whole of the Roman Forum, as well as the Sacred Way....Marcellus...fixed awnings of sailcloth over the forum....Recently awnings actually of sky blue and sprinkled with stars have been stretched with ropes even in the emperor Nero's amphitheaters." Martial, *De Spect. Liber* 12.28, refers to rolling back the sunscreen (*vela*) when Hermogenes (accused in the epigram of stealing napkins at banquets) appears at the arena.

³⁷ *BMCRE* 492 and 982.

³⁸ British Museum D627. This is one of a significant number of related terracotta plaques which typically have a similar top border, see John H. Humphrey (above, n. 18), pp. 180–86.

³⁹ *BMCRE*: Titus 190; Severus Alexander, 156.

facade and the interior scene. Whereas the Titus piece features the crowd inside and the emperor in his box, the sestertius of Severus Alexander also shows an ongoing contest similar to the aureus under discussion.

Vermeule has discussed at length the Roman practice of mounting statuary within architectural niches.⁴⁰ Many numismatic cases are cited or illustrated in his work although the stadium aureus is not. It is clear that this engraver intended to depict statuary rather than people since the lower arches, where statues would obstruct the flow of the audience, have no figures. Note the similar statues in niches in Plate 10, 5.

Another related depiction in a different medium is the wall painting of the amphitheater at Pompeii, now in the National Museum in Naples. Once again the viewpoint is aerial with a three-quarter angle (Plate 11, 7). Here the artist has shown the *velarium* as a cloth canopy, draped between frequent supports. It covers only part of the opening, so as not to obscure a view of the interior. The entrance steps of the smaller amphitheater at Pompeii were external to the main building, as is accurately shown at the near side.

There are other instances in which Roman coins resort to aerial perspective to display public architecture.⁴¹ The technique is seen in wall paintings as well and was clearly part of the artistic vernacular during the empire.⁴²

⁴⁰ C. C. Vermeule, *Greek Sculpture and Roman Taste* (Ann Arbor, 1977). The sculptural finds associated with the Stadium of Domitian are discussed on pp. 51–53.

⁴¹ Examples that readily come to mind are the city of Emerita on coins of P. Carausius under Augustus; the Praetorian Camp on coins of Claudius; the Port of Ostia, shown by both Nero and Trajan; and the Circus Maximus, shown by Trajan and Caracalla.

⁴² The Odyssey landscapes in the Vatican Museum are an example. See also R. Ling, "Studios and the Beginning of Roman Landscape Painting," *JRS* 67 (1977), pp. 1–16, and E. W. Leach, *The Rhetoric of Space, Literary and Artistic Representations of Landscape in Republican and Augustan Rome* (Princeton, 1988), pp. 41, 47, 50, 54, 82, 104, 117, and 310. A. Levi and M. A. Levi, *Itineraria picta: contributo allo Studio della Tabula-Peutingeriana* (Rome, 1967), pp. 137–43, associate the bird's eye style with the depiction of unroofed structures. P. H. Von Blackenhagen, "Narration in Hellenistic and Roman Art," *AJA* 61 (1957), pp. 78–83, sees the use of bird's eye perspective as the essential factor differentiating Roman continuous narrative from Greek.

A fundamental difference between this aureus and the other architectural coins cited is that its purpose is to commemorate the celebration of games, whereas the purpose of the others is to commemorate the construction or refurbishing of the architecture. The intended emphasis of the stadium aureus is on the interior action, while the stadium serves as the setting. This understanding provides the context for the interior figures.

WITHIN THE STADIUM

The events depicted on the stadium aureus are Greek style athletic contests in the tradition of the Olympic, Pythian, Isthmian, and Nemean games rather than gladiator duels or displays of exotic beasts. Such games had not always flourished in Rome. They were promoted by Augustus, Nero, and Domitian in the first century but became much more popular in the second century—notably under Hadrian.⁴³ Indeed, if one examines the Greek Imperial coinage, the pattern is for game-related coins to become more common in the late second century and to reach a peak during the first half of the third century.

To capture the flavor of gymnastic games, the engraver of the dies of the stadium aureus ruled a delicate ground line in the interior of the stadium and set a sort of frieze upon it. In a virtuoso display of miniature depiction, he delineated the rank or activity of each of nine figures in five vignettes to make up a “game frieze.” This “frieze” of figures can be seen as a “continuous narrative” grouped into symmetrical vignettes or episodes of 1–2–3–2–1 figures, respectively.⁴⁴

⁴³ For the history of Greek games under the Roman Empire, see R. S. Robinson, *Sources for the History of Greek Athletics* (Chicago, 1955), pp. 156–232; V. Olivova, *Sports and Games in the Ancient World* (New York, 1984), pp. 155–87; I. C. Ringwood-Arnold, “Agonistic Festivals in Italy and Sicily,” *AJA* 64 (1960), pp. 245–51; D. P. Harmon, “The Religious Significance of Games in the Roman Age,” *The Archaeology of the Olympics*, W. J. Raschke, ed. (Madison, 1988). Augustus proudly mentions occasions on which he sponsored athletic games in *Res Gestae*.

⁴⁴ Notice the symmetry in this figure grouping. The “Continuous Narrative” in Roman art is discussed in R. Brilliant, *Visual Narratives* (Ithica, 1984), esp. pp. 15–20 and 90–123.

Gordian III struck the bimetallic medallion of Plate 10, 8, in 244 to commemorate his triumph over the Sasanians.⁴⁵ The reverse contains three bands or friezes depicting memorable events of the occasion. At the top is the triumphal procession: the emperor, in his quadriga and crowned by Victory, is preceded by soldiers with palm branches. In the center is a chariot race in the circus: the *spina* makes the setting clear while two racing teams circle around behind it. On the bottom are ten contestants from games. A runner at the left carries a torch (?) and looks back. The second figure is uncertain but may represent a runner in armor.⁴⁶ The next two figures are undoubtedly boxers wearing gloves. The two figures at the center cannot be labeled unequivocally, but perhaps they are pancratiasts. Figures seven and eight are certainly wrestlers grappling each other's arms while slightly crouching. The last pair of combatants are gladiators carrying shields and wearing crested helmets.⁴⁷ The athletes of this medallion are notable for their age. One sees from their large heads and rounded bodies that they are not adults but infants. As such, they specify not the actual participants in the contests, but their *genii*.

⁴⁵ Or was it announcing an intended triumph scheduled for later in the year—one destined not to occur as Gordian III never returned to Rome from his successful eastern campaign? The medallion is catalogued by Gneecchi, vol. 2, p. 90, 27; and by Cohen, vol. 5, p. 50, 282. The engraving in Cohen is not quite accurate as it omits the object the first runner carries. This medallion is discussed in A. Alföldi, *Die monarchische Repräsentation im römischen Kaiserreiche* (Darmstadt, 1970), see pl. 4.

⁴⁶ A race with runners carrying stipulated arms became an event at the Olympic and other games.

⁴⁷ An interesting detail (echoed on the stadium aureus, note the runner) is that figures four, five, six, eight, and possibly three wear their hair pulled back in a chignon or bun, a *cirrus*. This was apparently standard practice for athletes. Mosaics from the baths of Caracalla now in the Vatican Museum show a variety of athletes, several with a long tuft of hair at the back of their head, see A. Insalaco, "I Mosiaci degli Atleti dalle Terme di Caracalla," *Archeologica Classica* 41 (1989), pp. 293-327. A black and white mosaic from Tusculum showing pancratiasts and boxers gives many contestants a bun (illustrated in M. B. Poliakoff, *Combat Sports in the Ancient World* [New Haven, 1987], p. 62). A sarcophagus lid with athletes, each with his hair in a bun, is dated to the late Antonine period, Getty Museum 71.AA.257, illustrated in G. Koch with K. Wight, *Roman Funerary Sculpture, Catalogue of the Collections* (Malibu, 1988), p. 28. For other examples see F. U. M. Cumont, *Recherches sur le symbolisme funéraire des Romains* (Paris, 1942), p. 469, fig. 100, pl. 46.2.

One might conclude from the dramatic *spina* at the center that all of these events occurred in the circus, but this is not necessarily so. The triumphal parade itself entered the circus, but the combatants of the bottom frieze would be more appropriately observed in a stadium or amphitheater. Perhaps the idea was to represent the central events of several days of celebration regardless of the venue.⁴⁸

Comparing Gordian's medallion with the stadium aureus, one notes that the relative placement of the runner, the boxers, and the wrestlers is the same and, further, the poses of these figures are remarkably similar. This suggests that there is a link between the two pieces, perhaps a work of art now lost. An alternate explanation for the similar order of vignettes is that, in each case, contests are shown in the order of their appearance at the games.

Cumont has grouped together for study a group of third century sarcophagi which depict victors from gymnastic events or chariot races which he sees as representing a visual metaphor for the triumph of the deceased over death.⁴⁹ Several friezes show athletes competing and as victors in poses quite parallel with the stadium aureus and the Gordian medallion.⁵⁰ Plate 12, 9, shows one of these in which the contestants are infants wearing their hair in *cirri*. Three of the four examples which Cumont illustrates show infants; two of the four unmistakably have their hair in *cirri*. The victory scene is exactly parallel to the stadium aureus in two cases; in a third the trumpeter is present, but the official gestures to the crowd rather than reaching to the head of the victor. The medallion and these sarcophagi friezes establish that there was a well-known prototype from which the engravers drew their designs. This could have been a piece of official art or even the popular form of sarcophagi.

The Runner

The figure at the left swings his arms and runs in a long stride. His right hand just touches the vertical line of an arch which could either be

⁴⁸ As an example, the quotation from Dio Cassius on Hadrian (above, n. 26) refers to a celebration which occupied amphitheater, circus, and theaters.

⁴⁹ Cumont (above, n. 47), pp. 457-84.

⁵⁰ Cumont, pl. 46, 2 and 3, figs. 100 and 101.

coincidence or an attempt to indicate his reaching the finish line.⁵¹ There is clearly an appendage at the back of his head which, on the basis of the Gordian III medallion (Plate 10, 8), the mosaics cited in n. 47, and the sarcophagi (Plate 12, 9) can be identified as an athlete's *cirrus*. The medallion and this piece appear to be the only appearances of footracers on Greek or Roman coins or medallions. It should be mentioned that the footrace was considered the premier event of the Olympic games, being the oldest. In recognition of this, each set of games was afterwards eponymous with the name of the footrace winner.

The Boxers

Adjacent to the runner are two contending figures with their arms at shoulder height. The depiction is a bit sketchy but the parallel design of the Gordian III medallion eliminates any doubt that this is a boxing match. There are abundant literary references to boxing clearly establishing its popularity under the Roman Empire,⁵² but this aureus, the Gordian III medallion, and a small bronze of Corinth under the Romans seem to be the only coins or medallions, Greek or Roman, which record boxers in a match.⁵³

The Victory Ceremony

The three facing figures at the center of the game frieze are clearly engaged in a victory ceremony following a contest. The left figure of the triad (a *tubicen*) turns slightly toward the central victor, pointing his long trumpet downward, while the right figure extends an arm to place a wreath on the head of the victor. The victor rests his weight on his left leg and raises his right hand to the wreath or crown on his head. He

⁵¹ The sources cited in n. 43 do not say if the winner was the first to reach the line with his hand, foot, or, as today, with his chest.

⁵² H. A. Harris, *Sport in Greece and Rome* (Ithica, 1972), p. 52. Poliakoff (above, n. 46), p. 68. See also Suetonius, *Augustus* 45, "He was most fond of watching boxers" and *Caius* 8.1, in which the emperor arranged for unusual boxing matches. SHA, *M. Aurelius* 4.9 mentions that the stoic emperor was fond of boxing, wrestling, and running.

⁵³ For the Corinthian pieces see: Michel Amandry, *Le Monnayage des duovirs corinthiens* (Athens, 1988), pp. 244–46, L12. His L9 looks more like pancratiasts than boxers.

appears togate on both specimens which the author has examined. This dress is not in keeping with athletic practice or any of the surviving art of ancient athletes. Perhaps the engraver is telling us that there were also competitions for musicians and poets, or perhaps we mistake the detail of his work and there is no toga.⁵⁴

Who is the official in charge of this ceremony? It is possible to imagine emperors or their sons directly awarding athletic victory wreaths and palms, and evidence exists that there were such occasions. A decree at Aphrodesias for a former athlete enumerates his victories and specifically mentions that he was "crowned with his own hands by the divine Antoninus (Pius)."⁵⁵ This inscription establishes an example of direct award by an emperor while implying that it was not a common event. Pictorial evidence from a later period appears on the base of the obelisk of Theodosius at Constantinople. On the face of one base is a scene of the emperor watching a chariot race. He holds a wreath which, one must assume, he will award to the winner of the race.

There are two literary references which, together with Greek statues, establish conclusively that the custom at Greek games was to present the wreath to the victor and have him place it on his own head. Bacchylides wrote the following line for Automedes, who won the pentathlon at Nemea: "famous among mortals are those who crown their yellow hair with the biennial wreath from those glorious contests at Nemea."⁵⁶ This is not unambiguous since it could refer to wearing the wreath at an occasion after the award ceremony. The second quotation, however, directly describes a victor's putting on his wreath. Pausaneus tells the

⁵⁴ The Nemean, Isthmian, and Pythian games included musical and poetry contests as did the Panatheneia and Rome's Capitoline and Actian Games. Having constructed his stadium for the Capitolia Games, Domitian built an Odeon nearby for such performances. Note 26 quotes Dio Cassius's reference to a celebration which included theater performances and wild beasts. Suetonius, *Caius* 18.20, mentions games at Lyon which included Greek and Latin oratory. The Neronia included music, rhetoric, and drama in addition to its athletic and equestrian events, Suetonius, *Nero* 12.3. What appears to be a toga may be a palm instead.

⁵⁵ *CIG* 2811 b (vol. 2, 1113-14); see also *Monumenta Asiae Minoris Antiqua*, vol. 8, p. 421.

⁵⁶ Bacchylides, Ode 8, trans. by R. S. Robinson, *Sources for the History of Greek Athletics* (Chicago, 1984).

story of an incident which occurred at the Olympic games of A.D. 93. An Alexandrian boxer named Apollonius failed to arrive by the official deadline and was ruled ineligible to compete. The judges "let the crown go to Heracleides without a contest. Whereupon Apollonius put on his gloves for a fight, rushed at Heracleides, and began to pummel him, though he had already put the wild-olive on his head and had taken refuge with the umpires."⁵⁷

In the realm of official Roman art, the prime concern was not with athletic victors or triumphant gods, but with political affairs. Similar to depictions of athletic victories are coins which show the coronation of client kings by Roman emperors. The first case of a coronation under the Empire is an issue of drachms and didrachms from Caesarea in Cappadocia with the head of Germanicus, but struck either by Caligula or Claudius⁵⁸ (Plate 12, 10). The reverse of this very rare type shows the coronation of the king of Armenia by Germanicus in 18. King Artaxias is pictured as if crowning himself, but the actual coronation is performed by Germanicus, demonstrating Roman authority and control. A pointed tiara, rather than a wreath or diadem, is clearly depicted on the king's head. The question naturally arises as to the meaning of this gesture to the recipient's head when the occasion is not a self coronation, as the Greek athletic depictions appear to have been. There are two possibilities. The first is that the recipient is not crowning himself but making a gesture—a sort of salute to the public—acknowledging his victory and the crown. This interpretation can fit the Greek statuary if one assumes that the official of the games presenting the wreath was omitted in order to focus on the victorious athlete. In contrast, the emphasis of this Roman coin (and three others that will be cited below) is on the Roman who is shown as superior to the king of Armenia. Thus, the man who awards the power is shown. The second is that the recipient's arm gesture was an established part of the iconography of athletic victory and was adopted for this political

⁵⁷ Pausanias 5.21.14. Wild olive was the traditional wreath material at Olympia.

⁵⁸ D. C. Braund, *Rome and the Friendly King* (New York, 1984), argues on p. 7 that "friend" is more accurate and the term more often used in ancient sources. The coin is *BMCRE*, p. 162, 104 = E. A. Sydenham, *The Coinage of Caesarea in Cappadocia* (London, 1936), p. 32, 49; Sydenham reproduces a superior specimen (from Berlin).

occasion. The die engraver wanted to make it clear that a coronation was occurring and the gesture adds some life and improves the composition.

A semis of Nero⁵⁹ may be the only example of an athletic victory ceremony shown on a Roman coin prior to the stadium aureus. Well preserved examples of his "prize table" semis show figures on the urn which may parallel the aureus vignette.

A closer parallel to the victory ceremony on the stadium aureus is provided by a contorniate with a bust of Trajan⁶⁰ (Plate 12, 11). The reverse shows a nude victor lifting a newly won crown to his head while cradling a palm branch in his left arm. He is flanked by two officials: the role of the one on the left is unclear—perhaps he has just handed over the crown (or is this a woman?); the one on the right is blowing a long trumpet. Both officials wear headgear of some sort and all three figures are the same height. The victor turns his head to the trumpeter so it is unlikely that the other official was of unusual importance (e.g., the emperor). Trumpeters, like heralds, are known to have been used at gymnastic contests from the classical period, but they are rarely depicted.⁶¹

A sestertius-sized bronze from Herakleia Pontica in Bithynia, dated to about 240, has an elaborate reverse with features remarkably parallel to the stadium aureus.⁶² Indeed, the similarity of concept is so close that it seems probable that the die engraver of Plate 12, 12, based its

⁵⁹ BMCRE 259. The figures are tiny but Mattingly describes the award of a wreath.

⁶⁰ A. and E. Alföldi with the assistance of Curtis L. Clay, *Die Kontorniat-Medallions* (Berlin, 1976), p. 213, 219.

⁶¹ Suetonius, *Nero* 24.1. The Olympic Games had a competition for the posts of herald and trumpeter from 396 B.C. See Pausanias 5.22(1) and J. Swaddling, *The Ancient Olympic Games* (Austin, 1984), p. 38. There is a reference by Seneca which sheds light on the ceremony: "...the trumpet of the herald calling for silence so that our name can be proclaimed....," *Epistulae Morales* 78.16, H. A. Harris trans. (above, n. 52).

⁶² W. H. Waddington, E. Babelon, and T. Reineach, *Recueil General des monnaies grecques d'Asie Mineure* (Paris, 1904–1925), p. 356, 70 (pl. 57, 11) and, with the alternate obverse, p. 379, 225 (pl. 62, 6). The British Museum specimen is shown enlarged in Martin J. Price and Bluma L. Trell, *Coins and Their Cities, Architecture on the Ancient Coins of Greece, Rome and Palestine* (London, 1977), p. 218, 473.

design on the earlier aureus. Once again there is an aerial view of a stadium. A single row of arches is punctuated by a higher arch at the right. A temple (?) at the left appears to be incorporated into the structure.⁶³ The far arm of the stadium curves noticeably and is filled with a crowd. At the center of the field, an oversized, victorious athlete crowns himself while cradling a palm in his left arm. A seated Hercules of even larger scale extends his right arm which holds a *kantharos* while a vertical club to his right clarifies his identity.⁶⁴ As the patron deity of the city, the games are dedicated to him. The obverse of this coin has an impressive medallion bust of Hercules but it is also known to occur with a portrait of Gordian III, thus dating the pieces to his reign.

The extensive and elaborate mosaics from the Piazza Armerina in central Sicily enrich our knowledge of Roman iconography in many ways.⁶⁵ Although they are usually dated to early in the fourth century, many public ceremonial customs would have changed little in the century between Septimius Severus and these mosaics. The scene of greatest interest occurs within a colossal view of a circus chariot race, Plate 13, 13. The victorious charioteer guides his team to a spot where two men wait to present him with his trophies. One holds a palm branch and an egg-shaped object, while the other vigorously blows a long trumpet to announce the award. The function and the pose of the trumpeter are parallel to the figure at the left of the victor on the stadium aureus and to the contorniate trumpeter. Of further interest is the crown worn by the mosaic trumpeter which looks like the ones worn by the contorniate officials. The "egg" may be a victory token which evolved parallel to the apples once awarded the victors at the Pythian games or perhaps it is a miniature of one of the insignia used at the *spina* to keep track of the laps. A similar object appears next to a palm

⁶³ Compare this with the temple shown in the representation of the Circus Maximus on Trajan's sestertius, *BMCRE* 853. See n. 78 below for references to the pulvinar.

⁶⁴ The object can be identified from another bronze of Gordian III, which shows only the seated Hercules, *SNGvAulock* 429 and 455.

⁶⁵ R. J. A. Wilson, *Piazza Armerina* (Austin, 1983), provides a general review of the site. Extensive plates are included in A. Carandini, A. Ricci, and M. DeVos, *Filosofiana. The Villa of Piazza Armerina* (Palermo, 1982).

branch with a victory ribbon in a mosaic panel from the Baths of Caracalla.⁶⁶

A terracotta mold, Plate 13, 14,⁶⁷ probably of the fourth century provides us with another view of a victory ceremony similar to the Armerina mosaic. The victor cradles a long palm branch in the crook of his left arm and reaches up with his right hand to a large, elaborate crown on his head. He is flanked by a musician with a very long trumpet and another official in headgear of some sort. This last person may be placing the crown on the victor's head, but the palm prevents us from seeing what might be an outstretched arm. An uncertain small figure stands in the foreground, to the victor's left. Is he wearing a crown and does he too reach up to his head with his right arm? Perhaps he is the genius of circus victory.

The Wrestlers

The vignette of the next combatants is cleverly and realistically sketched to show their sport and distinguish it from that of the boxers. Since each crouches and leans forward to grapple his opponent, their heads are not as high as those of the other figures of the frieze. Their arms reach out at a lower level than the shoulder height of the boxers. The author is unaware of any representations on a Roman coin, other than this and the Gordian III medallion, of wrestling.⁶⁸ There are, however, several instances of wrestlers shown on Greek or Greek Imperial coins. The well-known staters from Aspendus and Side show several variations on the wrestling pose.⁶⁹ Greek Imperial bronzes from

⁶⁶ The symbolism and origin of the eggs at the Roman circus are discussed by John H. Humphrey (above, n. 18), pp. 260–62. There are ancient texts associating these eggs with Castor and Pollux, see Insalaco (above, n. 47).

⁶⁷ Formerly in the British Museum but now lost. H. B. Walters, *Catalogue of the Terracottas in the British Museum* (London, 1903), p. 442, E79, and H. B. Walters, *Catalogue of the Greek and Roman Lamps in the British Museum* (London, 1914), pp. 211–12, 1398, fig. 330.

⁶⁸ Wrestling was, however, a popular sport among the Romans. It is interesting to note that Marcus Aurelius had a wrestling coach when a student, something he mentions in passing in a letter to Fronto, *Ad Marcus Caesar* 2.13.

⁶⁹ *SNGvAulock* 4502–78 and 5243–74. In this discussion, representations of the wrestling match between Hercules and Antaeus are omitted. The invariable pose shows Antaeus held off the earth and the subject is mythological, two basic differences from the aureus's pair of wrestlers.

Laodiceia ad Mare and Philippopolis (Plate 13, 15) in Thrace under Elagabalus⁷⁰ feature wrestlers similar to the vignette on this aureus. Anonymous small issues from Corinth, apparently part of a series depicting all sports of the Isthmian games, include wrestlers.⁷¹ Syedra in Cilicia struck a similar type with portraits of Valerian, Gallienus, and Salonina.⁷² At Ariassos in Pisidia, Philip II was honored by a wrestling design with the added element of a prize crown floating above the combatants.⁷³

The Emperor

A figure of authority sits at the end of the frieze and views the activities. His arm stretches out in a gesture of command, and his position of honor is indicated by the canopy over his head.⁷⁴ The engraver did not deem it necessary to make him taller than the other figures—his head is actually the lowest of the nine—but instead, tucked this figure into the curve at the end of the stadium.

There can be little doubt that the seated person is Septimius Severus, the senior Augustus. This would be the assumption of a citizen seeing a single authority figure on a coin. There is the thought that Severus may already be shown as the figure crowning the victor in the central vignette, but this figure is not as prominently shown as the victor himself. Furthermore, even if the emperor is crowning the victor, there are ample precedents in Roman reliefs for a central figure to be represented several times. Another question is why only one Augustus is shown although there were two at the time of striking. Perhaps Caracalla is crowning the victor, or perhaps the engraver may have thought it impossible to show two seated figures in the small space available.

Representations of an emperor similar to that on the stadium aureus appear on coins of Hadrian, Lucius Verus, Septimius Severus, and

⁷⁰ *BMC Syria* 105; *BMCThrace*, p. 167, 44.

⁷¹ Michel Amandry (above, n. 53), p. 246, L14.

⁷² H. C. Lindgren and F. L. Kovacs, *Ancient Bronze Coins of Asia Minor and the Levant* (San Mateo, 1985), p. 86, 1612 = *BMCCilicia* 21; *SNGvAulock* 5904 and 5905.

⁷³ *SNGvAulock* 5007.

⁷⁴ The use of this arm gesture of command is discussed in R. Brilliant, *Gesture and Rank in Roman Art* (New Haven, 1963), pp. 77, 133, and 151, among others.

Postumus, which show each seated under a canopy on a galley.⁷⁵ What appears to be the imperial box at the Colosseum occurs on the sestertius of Titus, seen head-on in the center of the crowd. The outline of the enclosure takes the form of a slightly elongated semicircle. It contains a single dot, surely the emperor, while the other sections of seats have closely packed dots, representing the crowd.

The base of the column of Theodosius shows a relief representing the emperor at games. He is seated in an imperial enclosure with two columns and a roof.

There are some interesting literary references to special seating for an emperor at various performances. Often the word used is *podium* which Rolfe translates as “balcony.” In a note he expands and explains: “... a raised platform close to the arena, on which the imperial family, the curule magistrates and the Vestal Virgins sat on curule chairs.”⁷⁶ There is another passage in Suetonius which makes it clear that there was a superstructure, too. “Nero very seldom presided at the games, but used to view them while reclining on a couch, at first through small openings, and then with the entire balcony (*podio*) uncovered.”⁷⁷ Suetonius quotes from a letter of Caesar Augustus to Livia regarding Claudius, “That he should view the games in the Circus from the Imperial box (*ex pulvinari*) does not meet with my approval; for he will be conspicuous if exposed to full view in the front of the auditorium.”⁷⁸ Pliny the Younger, in his panegyric on Trajan, mentions that the emperor had

⁷⁵ *BMCRE*: Hadrian, 1391; L. Verus, 1047; S. Severus, p. 346, 847. Postumus, *RIC* 143.

⁷⁶ Suetonius, vol. 2, p. 104.

⁷⁷ Suetonius, *Nero* 12.2.

⁷⁸ Suetonius, *Claudius* 4.3. The fact that Augustus mentions his construction of the pulvinar at the Circus Maximus in his *Res Gestae*, 3.19, is interesting. This indicates that he considered it a significant structure and not simply a comfortable and prestigious box for his family and high officials. John H. Humphrey (above, n. 18), pp. 78–83, points out that the word in the Greek text is *naos* (shrine) and offers the explanation that images of dieties were paraded in the circus and then placed in a spot of honor here. (See also n. 18 above.) He interprets the marble plan and a mosaic as showing the pulvinar to be a hexastyle temple without a front wall. Humphrey shows photographs and reconstructions of the imposing box at the Circus of Maxentius on pp. 595–600.

changed the imperial *cubiculum* at the circus so that he was at the same level as the populace and could be seen by them.⁷⁹

It can be concluded from these representations and references that an enclosure featuring a roof over the emperor was standard for public occasions. It would serve to honor him and protect him from the elements. In the case of the colosseum, the circus, and the stadium, it may well have been a foil against assassination attempts.

CONCLUSIONS

The stadium aureus has an unusually detailed reverse design which recalls Greek style games in the stadium of Domitian. The intended emphasis is, however, on the interior action rather than the architecture. The same love of detail can be seen in other coins of the period which are surely traceable to the same mint authority: the arch (denarii and middle bronzes); the bridge (aurei and middle bronzes); and the ship-in-circus (aurei and denarii), a design which may depict other aspects of the same celebration as our piece. Aurei of Caracalla and Geta with reverses showing Bacchus and Hercules and an aureus of Septimius Severus showing Jove between Bacchus and Hercules may be related to the celebration too. All of these pieces are rare and it seems likely that such intricate dies, requiring extra work and probably with a shorter useful life, were a luxury reserved for special occasions and small editions. Could these coins have served as presentation pieces in place of the bronze medallions whose production had been eliminated some years before?

The size of the frieze figures is worth comment. At a height of 2.2 mm, the figures are shorter than the laurel leaves forming Severus's crown on the obverse. Previous cataloguers thought such tiny figures to be merely decorative sketches and nothing more, but close examination shows that specific sports events and officials are depicted. An elaborate medallion of Gordian III contains some strong parallels to the athletic frieze as do several friezes from sarcophagi. In summary, the frieze has nine figures. The figure at the left is a runner with his hair

⁷⁹ Pliny, *Panegyric* 51.4-5.

gathered in a bun (*cirrus*), a style common for athletes. Pairs of boxers and wrestlers compete, with their sports vividly sketched. This is the sole appearance of either type of combat on a Roman coin. At the center, a togate victor (possibly a poet or musician) receives a wreath while a trumpeter plays. The pose of the victor and the crown giver can be traced in earlier art and coinage, but there are few other depictions of a ceremony with the trumpeter. At the far right, the emperor Septimius Severus observes and presides. He is seated in the imperial box and gestures to accent his authoritative role.

The venue is the stadium of Domitian seen from an aerial perspective that Roman art had developed. Arches of the upper tier contain statues, a common practice of the period. A row of palmette finials suggest the supports for the *velarium* which shaded the spectators.

Through an obverse die link, the coin is tied to a rare aureus dated TRP XIII, 206, but it is difficult to determine which celebration is commemorated. The most likely candidates are the sixtieth birthday of the emperor, the one hundred tenth anniversary of Nerva's accession, and the dedication of a temple to Bacchus and Hercules. Whatever the event (or combination of events), some general remarks can be made. In contrast to early Greek statuary which focused on the individual victor, this coin recalls an entire set of games for the glory of the emperor who arranged them. The subject may be athletics, but the motivation is certainly political. Not only is Septimius's portrait on the obverse, but his figure oversees all the action on the reverse from his seat of honor in the imperial box.

KEY TO PLATES

<i>Description</i>	<i>Source</i>	<i>Reference</i>
1 Aureus: Sep Sev/games in stadium	Author	<i>BMCRE</i> , p. 216, 319
2 Aureus: Sep Sev/Emp on horse with Vict	<i>NCirc</i> 96, 2, p. 49, 977	cf. <i>BMCRE</i> , p. 253, 494
3 Denarius: Sep Sev/ship in circus	ANS	cf. <i>BMCRE</i> , p. 209, 283
4 Aureus: Sep Sev/Jove between Bacchus & Hercules	<i>NCirc</i> 90, p. 159, 5	Author

- | | | | |
|----|---|---------------------------|---|
| 5 | Aureus: Sev Alex/Colosseum | Bank Leu
22, 318 | cf. <i>BMCRE</i> ,
p. 128, 156 |
| 6 | Terracotta: chariot race | British Museum | D627 |
| 7 | Wall painting: arena | | Museo Nazionale
Naples |
| 8 | Medallion: Gordian III/
procession-race-contests | Bibliothèque
Nationale | Gnecchi 2,
p. 90, 27 |
| 9 | Sarcophagus frieze:
infant athletes & officials | Musée du Louvre | |
| 10 | Didrachm: Germanicus/
Germanicus crowning Artaxias | Bibliothèque
Nationale | <i>BMCRE</i> 104 |
| 11 | Contorniate: Trajan/
circus victor with attendants | Frank Sternberg | Alföldi and Clay,
17, 9 May 1986, p. 213, 219
585 |
| 12 | Æ 32: Hericlia Pontica/
victor in stadium | Münz. u. Med.
41, 352 | Waddington 2,
p. 357, 76 |
| 13 | Mosaic: chariot victory | Piazza Armerina | |
| 14 | Terracotta: victory ceremony | British Museum | Walters,
p. 422, E79 |
| 15 | Æ 29: Elagabalus/wrestlers | Frank Sternberg | <i>BMCThrace</i> ,
13, 851 p. 167, 44 |

THE CIRCULATION PATTERN OF DIOCLETIAN'S NUMMUS

JAMES ERMATINGER

An analysis of Diocletian's nummus and its circulation provides valuable information for the economic history of the late Roman Empire. The goals of this study are: 1) to collect a representative body of coin hoards and site finds of the early fourth century from various parts of the Empire and 2) to compare two kinds of data, the issuing mint and the final location of the coins. This relationship has not been explored satisfactorily for the Empire as a whole during Diocletian's reign.

C. E. King has postulated that a more detailed analysis of coin distribution "is needed to establish a regional pattern and trade links between the various parts of the Empire."¹ Her study showed the regio-

¹ C. E. King, "The Value of Hoards and Site Finds in Relation to Monetary Circulation in the Late Third and Early Fourth Centuries A.D.," *Studien zu Fundmünzen der Antike* 1 (1979), p. 79. At present there is no general work on the circulation of Roman coinage. Certain works are noteworthy for specific periods. C. H. V. Sutherland, *The Emperor and the Coinage* (London, 1976), deals with matters of supply, volume, and circulation in the Julio-Claudian era. J. P. Callu, "La Politique monétaire des empereurs romains de 238 à 311," *BEFAR* 214 (1969), treats circulation regionally during the third and early fourth centuries. For the interpretation of hoards and site finds see P. J. Casey, *Understanding Ancient Coins* (Norman, Okla., 1986), pp. 51–113. For the problems with hoards and their analysis see Patrick Bruun, "Site Finds and Hoarding Behavior," *Scripta Nummaria Romana*, ed. R. A. G. Carson and Colin Kraay (London, 1978), pp. 114–23; P. Bruun, "Quantitative

nalistic patterns in the distribution of mint production. This particularism has rarely been disputed, but her groupings and broad divisions may be misleading.

An examination of mint distribution divided into Tetrarchic and post-Tetrarchic coinage instead of overall percentages shows more clearly the distribution based on time and space. Hence, a great output in either period would not distort the relative values for individual mints. For convenience, "Tetrarchic" is defined here as the first Tetrarchy (293–305) while "post-Tetrarchic" denotes coins from 305 to 337 A.D.²

The materials for this study consist of 60 hoards of nummi of the late third to early fourth centuries and 18 site finds with coins from the years 293–337. In addition to the hoards of nummi, two gold hoards and one silver will also be analyzed.³ The results for each area of the Empire according to mints are presented in the tables as percentages for Tetrarchic (T), post-Tetrarchic (PT), and site finds (SF).

Regionalism, that is, the situation where the nearest mint or group of mints dominates, occurs for most areas. This is to be expected and is not debated here. Exceptions, however, are noticeable and important. For example, the Fontana Hoard in Italy shows a strong influence from Gallic and British mints and not from Italian, while 60% of the coins in the Delos Hoard of the second Tetrarchy come from the mint of Rome.

Analysis of Hoarding in Periods of Coin Deterioration," *PACT* 5 (1985), pp. 355–64; Richard Reece, "The Normal Hoard," *PACT* 5 (1985), pp. 299–308. This article originally began as part of the 1986 Graduate Seminar at the ANS. I would like to thank the curators and staff for their help. I would also like to thank the H. B. Earhart Foundation and Research Services Council at Kearney State College for their support.

² King (above, n. 1), p. 79.

³ In this part of the study, pre-reformed coins are not taken into account. With only a few exceptions, their influence in the overall picture for each hoard is minimal. Hence total coins really means total "reformed" coins. The two gold hoards are: P. Bastien and Catherine Metzger, "Le Trésor de Beaurains (dit à Arras)," *Numismatique romaine* 10 (1977); R. A. G. Carson, "A Treasure of Aurei and Gold Multiples from the Mediterranean," *Mélanges de numismatique, d'archéologie et d'histoire offerts à Jean Lafaurie* (Paris, 1980), pp. 59–73. For the Sisak silver hoard, see A. Jelocnik, *The Sisak Hoard of Argentei of the Early Tetrarchy* (Ljubljana, 1961). The break between antoniniani and nummi is extremely sharp, suggesting the latter were valued at a far greater amount than the former.

Both hoards are thus classified as "travellers' hoards."⁴ In general, however, the circulation pattern of a given hoard shows a continuum of mints from throughout the Empire with coins from mints farthest away occurring less frequently.

Certain mints are represented in greater percentages than expected. Coins of Rome, Aquileia, Heracleia, Cyzicus, and especially Carthage often occur more frequently than coins of mints geographically closer. This aspect of circulation is of particular interest here.

Throughout the following discussion references to certain geographical regions will indicate their associated mints: Western — London, Lugdunum, Trier; Italian — Ticinum, Rome, Aquileia; Balkan — Siscia, Serdica, Thessalonica; Bosporan — Heracleia, Nicomedia, Cyzicus; Eastern — Antioch, Alexandria.

The coin distribution for the various parts of the Empire can be divided into two groups, local (Table 1) and extended (Table 2). The local areas are mainly the frontier provinces of the north. For the Tetrarchic period Britain⁵ and Gaul⁶ are dominated by the western

⁴ P. Bastien, "La Trouvaille de Francovilla Fontana," *RN* 1966, pp. 241–65; P. Bruun, *Studies in Constantinian Chronology*, ANSNM 146 (1961).

⁵ Only coins with the London mint mark are used, the continental mints without mint marks are not usually taken into account. The hoards for Britain are Chipperfield: R. A. G. Carson, "Chipperfield (Herts) Treasure Trove," *NC* 1974, pp. 182–84; Wroxton: C. H. V. Sutherland, "A Hoard of Roman Folles from Wroxton Heath near Banbury Oxon," *NC* 1954, pp. 62–67; Weybridge: G. F. Hill, "Two Hoards of Roman Coins: I. Bronze Coins of the Tetrarchy, from the Brooklands Motortrack, Weybridge," *NC* 1908, pp. 208–21; Quennevais: R. W. Higginbottom, "The Quennevais (Jersey) Roman Hoard," *Brit. Mus. Occ. Paper* 31 (1981), pp. 69–74.

⁶ The Hoards for Gaul are Chat: Georges Gautier, "La Trouvaille du Col du Chat," *Trésors monétaires* 1 (1979), pp. 77–92; Domqueur: P. Bastien and Francois Vasselle, *Le Trésor monétaire de Domqueur* (1965); Lignieres: P. Bastien, *Trésors monétaires du Cher* (1965); Margaux: J. Cabarrot and D. Nony, "Le Trésor de 'Folles' de Margaux (Gironde)," *RN* 1966, pp. 199–240; Quentin: Michel Amandry and Pierre Gendre, "Le Trésor de folles de Saint-Quentin (Aisne)," *Trésors monétaires* 4 (1982), pp. 45–50; Marchais: Louis Chaurand, "Le trésor de Marchais (Aisne)," *Trésors monétaires* 4 (1982), pp. 51–58; Fresnoy: P. Bastien and Francois Vasselle, *Trésor monétaire de Fresnoy-Les-Roye* 2 (1981); Seltz: N. Lewis, *A Hoard of Folles from Seltz (Alsace)*, ANSNM 79 (1937); Hubert Herzfelder, "Le Trésor de Seltz (II)," *RN* 1952, pp. 31–58; Hans Jucker, "Seltz III," *JBM* 41–42 (1961–62), pp. 358–85; Michel Amandry, "Seltz IV et V," *Trésor monétaires* 1 (1979), pp. 55–75. For Gaul, Seltz was not used because its close proximity to Trier would have distorted the picture.

TABLE 1
Local Circulation, Regional Distribution by Mint as a Percentage

	Britain			Gaul			Germany			Italy			N. Danube			S. Yugo.			Egypt		
	T	PT	SF	T	PT	SF	T	PT	SF	T	PT	SF	T	PT	SF	T	PT	SF	T	PT	SF
<i>Trier</i>	31	36	44	33	34	30	43	67	19	16	20	.4	1	.02	1	.3			.8		
<i>Lugdunum</i>	21	5	14	22	32	11	17	13	10	9	2	1	2	.3	.4	.3			.3		
<i>London</i>	17	51	6	18	23	8	7	6	2	15	8		.6		.5	.03		.03	.4		
<i>Rome</i>	10	2	2	8	1	.7	3	2	.5	21	34	71	17	8	6	14	3	10			
<i>Ostia</i>		.1			3			.8			13	1		4	3						
<i>Arles</i>		6				2		1	6		1	3		2							
<i>Ticinum</i>	5	.7		6	4		10	.8	1	13	4	3	23	10	10	7					
<i>Aquileia</i>	.8	1	.5	1	.5	.7	.1	.2	.1	.5	20	2	16	63	9	3	.3				
<i>Siscia</i>	2	.2	2	3	2	3	.8	.2	.1		.8	4	10	1	40	6					
<i>Thessalonica</i>	3	.3		.1	.03		.2	.8	.9			.4	3	.04	14	2	.03				
<i>Serdica</i>						.7							.7	.4		.7	.1				
<i>Sirmium</i>									.3												
<i>Heracleia</i>	1	.1		.2	.4				.4			5	3	.2	3	6	2	5			
<i>Cyzicus</i>				.2	.07		.01	.02	.3			5	4	.4	3	5	3	7			
<i>Nicomedia</i>								.005	.3				.6	.05	6	.3	2	10			
<i>Constantinople</i>									.3			2									
<i>Antioch</i>				.4	.02		2	.005	.1			1	2		.7	16	10	13			
<i>Alexandria</i>				.2			1	.05				1	.7		.003	37	73	36			
<i>Carthage</i>	2	.7		5	3		8	1	.1	26	2	.4	18	.8		4	1				
<i>Unknown</i>			29			43			58							.1	3				

TABLE 2
Extended Circulation, Regional Distribution by Mint as a Percentage

	Spain			Greece			Turkey			Palestine			Africa		
	T	PT	SF	T	PT	SF	T	PT	SF	T	PT	SF	T	PT	SF
<i>Trier</i>	19		13	1	1	2		.6	.1	2	.2	2	5		
<i>Lugdunum</i>	7	26	16		1	1				2	1	1	5		
<i>London</i>	1		5		.5	.2			.03	.5		1	2		
<i>Rome</i>	25	10	22	14	23	5	8	15	2	10	5	3	28		
<i>Ostia</i>			2		2			7			.03	.3	9		
<i>Arles</i>		7	23		4	3			.3			2	10		
<i>Ticinum</i>	8		3	7	4	3	5	.6	.7	6	2	1	5		
<i>Aquileia</i>	4	5	1	2	5	2	4	1	.1	8	8	.8	4		
<i>Siscia</i>	9	5	2	14	7	9	5	4	3	6	4	2	4		
<i>Thessalonica</i>			2	8	9	11	15	4	2	8	2	2	3		
<i>Serdica</i>				.6	5		4	9		2	6				
<i>Sirmium</i>						5									
<i>Heracleia</i>	1	5	1	28	13	11	16	13	15	7	8	7	2		
<i>Cyzicus</i>		6	2	13	15	13	17	13	32	10	10	10	5		
<i>Nicomedia</i>		8	.5		2	10	13	3	10	2	4	5	3		
<i>Constantinople</i>		2							4			3	3		
<i>Antioch</i>	1	11	5	5	3	6	5	25	8	22	38	28	1		
<i>Alexandria</i>	.6		.5	4	2	2	5	2	5	7	7	7	3		
<i>Carthage</i>	17	13	2	3	.6	.7	2	1	.03	8			4		
<i>Unknown</i>			.2		.2	.7			17		.5	42	6		

mints, with Gaul also having a strong influence from Rome, Ticinum, and Carthage. In Germany⁷ the western mints predominate with a significant percentage from Carthage. The Italian and western mints influence Italy,⁸ representing over 70% of the coinage, with Carthage contributing one quarter. The Balkan and Bosporan mints influence the northern Danube region. The Centur hoards of Pannonia are dominated by the Italian and Balkan mints, while Carthage has a strong influence with nearly 20%.⁹ Southern Yugoslavia¹⁰ is governed by the Balkan mints. Egypt,¹¹ with most mints represented, is influenced by the eastern mints and Rome. Most of these areas were on the frontier traditionally isolated from the rest of the Empire. The mint of Carthage occurs in significant percentages in the western and central parts of the Empire.

The other major type of circulation is the extended distribution (Table 2). Unlike local areas in which nearby mints prevail, the

⁷ For Germany the hoards are Stadtkreis: Stadtkreis Mann, *FMRD* 1.1, 1166; Heisdorf: Walferdange/Heisdorf, *FMRL* 1, 366; Stockstadt: Stockstadt am Main, *FMRD* 1.6, 6021; Schwaben: Landkreis Illertissen, *FMRD* 1.7, 7157; Dalheim: Dalheim-Ricciacus, *FMRL* 1, 81; 2, 46.

⁸ The hoards for Italy are N. Italy: V. Picozzi, "Un Ripostiglio di 'Folles' di Massenzio," *Numismatica* 1964, pp. 181–98; Sardinia: A. M. Burnett "A Hoard from Sardinia," *Coin Hoards* 5 (1980), pp. 67–68; Fontana: P. Bastien, "La Trouvaille de Francavilla Fontana," *RN* 1966, pp. 241–65; Italy: R. A. G. Carson and J. P. C. Kent, "Constantinian Hoards and Other Studies," *NC* 1956, pp. 83–161. Since the hoard from Sardinia contains only 1 Tetrarchic coin minted at Heracleia, this coin and its corresponding percentage, i.e. 100% for both Tetrarchic and mint at Heracleia, was not used.

⁹ The hoards for the northern Danube are Hungary: Andrea Alföldi, "Il Tesoro di Nagytetyeny," *RIN* 34 (1921), pp. 113–90; Centur: C. A. Jelocnik, *The Centur C Hoard*, Ljubjana, 1983; A. A. Jelocnik, *The Centur Hoard of Folles from the Time of Maxentius* (Ljubjana, 1973).

¹⁰ The hoards for Yugoslavia are Cornji: J. P. Callu, "Inventaire des trésors de bronze constantinien," *Numismatique Romaine* 12 (1981), p. 51, sect. 2, 1 (hereafter, Callu, "Inventaire"); Trijebnja: Callu, "Inventaire," p. 51, sect. 2, 2; Bikic-Do: Callu, "Inventaire," p. 51, sect. 3, 1.

¹¹ The hoards for Egypt are Theadelphia: D. Kienast, "Der Münzefund von Ankara," *JNG* 12 (1962), pp. 270–310; Medinet: J. Schwartz, "La Circulation monétaire dans l'Egypte du IV^e siècle," *SM* 9 (1959–60), pp. 40–45; Luxor: see Medinet; Egypt: see Theadelphia; Cairo: W. Metcalf, "The 'Cairo' Hoard of Tetrarchic Folles," *RBN* 120 (1974), pp. 73–107.

extended distribution contains coins from most mints of the Empire, usually without any single mint or group of mints dominating. Spain,¹³ for the Tetrarchic period, has specimens from all over the Empire, although Trier, Rome, and Carthage are present in significant numbers. The Post-Tetrarchic period has a wider distribution pattern than the Tetrarchic. The hoards from Greece,¹³ like those of Spain, show representations of nearly every mint. Turkey,¹⁴ Palestine,¹⁵ Africa,¹⁶ and

¹³ The Spanish Hoards are Spain: M. S. Centeno, "Numismatice de Fiaes: dois Tesouros do Baixo Imperio," *Numisma* 26 (1976), pp. 171–85; Foxo: F. Diego Santos, "Tesorillo de Monedas Romanas halladas en Foxo-Tameza," *Archivum* 16 (1966), pp. 293–313.

¹³ The hoards for Greece are Crete: G. C. Haines, "A Hoard of Roman Coins Discovered in Crete," *NC* 1923, pp. 344–55; Macedonia: Michel Amandry, "Une Trouvaille de folles en Macedoine," *SM* 103 (1976), pp. 45–60; Delos: P. Bruun, *Studies in Constantinian Chronology*, *ANSNM* 146 (1961); Greece: J. N. Svoronos *JAN* 12 (1902), pp. 157–93; Ivan: B. Bojkova, "Ivan Vazovo, Plovdiv, Bulgaria," *Numismatika* 2 (1978), pp. 18–21; Thessalonica: Callu, "Inventaire," p. 55, sect. 1, 2.

¹⁴ The hoards for Turkey are Antalya: Heinrich Chantraine, "Schatzfund von Antalya," *JNG* 26 (1976), pp. 89–106; Ankara: D. Kienast, "Der Münzfund von Ankara," *JNG* 12 (1962), pp. 270–310; Crimea: "Mt. Chatirdag, Alusha, Crimea USSR," *Coin Hoards* 7 (1980), 308.

¹⁵ The hoards for Palestine are Diarbekir: P. Bastien, "Trouvaille de folles au Liban (294–307)," *RN* 1967, pp. 166–208; Palestine: Jacques Schwartz, "Sur quelques Trésors du 4^e siècle," *SM* 24 (1974), pp. 45–48; North Sinai: C. E. King and A. Spaer, "A Hoard of Folles from Northern Sinai," *NC* 1977, pp. 64–112; Homs: see Diarbekir; Alep: see Diarbekir; Sotheby: see Palestine; Liban: see Diarbekir.

¹⁶ North Africa presents some problems for this study. For the Tetrarchy only one hoard was available for analysis containing only six coins. It is therefore difficult to assess the impact of the nummus in Africa. A small hoard of 62 post-reform antoniniani may be of some help. The hoard is composed only of coins from the first Tetrarchy, Cyzicus has 10 coins or 16%, Alexandria 9 or 15%, Rome 13 or 21%, Carthage 29 or 47% and Ticinum is represented by only one coin or less than 2%. J. P. Callu stresses that this is a unique hoard in the west composed of only post-reform antoniniani, J. P. Callu and J. Yuon, "Le Trésor de Ngaous (Algerie)," *Mélanges d'archéologie et d'histoire offerts à A. Piganiol* (1966), vol. 1, pp. 303–20. His view is that the antoniniani circulated side by side with the nummi. If this is the case, and it seems logical, then this hoard shows the strong influence of Carthage and Rome in Africa. The post-Tetrarchic hoards complement this view. Although Carthage, which had lost her mint in 307, is represented by only 4%, Rome, Arles, and Ostia comprise nearly 50%. The Balkan and Bosporan mints contain about one-fifth, and the remaining western mint about 10%. The evidence suggests that Africa was in constant communication with the rest of the empire.

Dacia¹⁷ likewise exhibit an extended distribution pattern. As may be seen in Table 2 no mint or region dominates.

The differences between the two sets of hoards are striking. Traditional frontier regions such as Turkey and Palestine show a wider distribution than non-frontier provinces such as Italy, Egypt, or southern Yugoslavia. This suggests that influences other than purely military affairs affected circulation.

Site finds have patterns similar to those of hoards. In comparing site finds to hoards no distinction has been made between antoniniani and nummi since both circulated together. Moreover, the time period has been expanded to 337 A.D. since there was no discernible change in circulation over the longer period. The percentages expressed are only for coins during this period which make up between 8 and 20% of the total number in sites.¹⁸

Site finds again have the two distinct patterns, local and extended. The local regions (Table 1), as with the hoards, are Britain,¹⁹ Gaul²⁰ and

The hoards for Africa which give some evidence for patterns of circulation are Tunisia: X. Lorient, "Fragment d'un trésor de folles decouvert en Tunisa," *BSFN* 27 (1972), pp. 160–62; N. Africa: "Circulation Monétaire," *CahN* 11 (1967), p. 329; Tunisia-Const: P. Bastien, "Trésor de monnaies constantiniennes en Tunisie," *BSFN* 13 (1958), pp. 254–55; Algeria: Pierre Salama, "Sur un Lot monétaire constantinien decouvert au Guelta (Algerie)," *Instituto Italiano di Numismatica Annali* 7–8 (1960–61), pp. 253ff.; Malta: P. Ker Gray, "A Hoard of 'Folles' in the National Museum of Malta," *NC* 1961, pp. 203–9.

¹⁷ The Dacian hoards are Celeiu: Burcur Mitrea, "Découvertes monétaires en Roumanie, 1976," *Dacia* 21 (1977), p. 378, 44; Biharia: Burcur Mitrea, "Découvertes monétaires en Roumanie, 1979," *Dacia* 24 (1980), p. 374, 74; Gherla: Burcur Mitrea, "Découvertes monétaires en Roumanie, 1980," *Dacia* 25 (1981), p. 386, 124. The hoards of Celeiu and Gherla have a large percentage, 45% and 48%, of unknowns.

¹⁸ For a comparison of coinage in the west, see R. Reece, "Roman Coinage in the Western Empire," *Britannia* 4 (1973), pp. 227–51; Simon Keay, "Notas Sobre La Circulacion Monetaria Entre Hispania, Narbonense, Italia y Africa," *Asociación Numismática Española 11 Simposi Numismatic de Barcelona 1980*, pp. 235–46. For the circulation of nummi and antoniniani, see Callu (above, n. 17).

¹⁹ The site finds for Britain are Hill Farm: Jo Draper, "Excavations by Mr. H. P. Cooper on the Roman Site at Hill Farm, Gesting Thorpe, Essex," *East Anglian Archaeology* 25 (1985), pp. 22–27; West Stow: Stanley West, "West Stow the Anglo-Saxon Village," *East Anglian Archaeology* 24 (1985), pp. 76–82.

²⁰ The site find for Gaul is Aisne: Jean-Baptiste Giard, "Le Pèlerinage gallo-romain de Conde-Sur et ses monnaies," *RN* 1969, 62ff.

Germany²¹ dominated by the western mints, Italy²² where Rome prevails, the northern Danube region²³ influenced by the Balkan and Bosphoran mints, and Egypt²⁴ dominated by the eastern mints. The areas of Spain,²⁵ Greece,²⁶ Turkey²⁷ and Palestine,²⁸ however, have an extended distribution (Table 2). This supports the conclusions made for the hoards.

The two types of data, hoards and site finds, for the Tetrarchic period correspond with each other. The post-Tetrarchic period, however, is marked by more regionalistic patterns than the Tetrarchic in both hoards and site finds. For example, Italy shows the presence of a larger percentage of Italian mints for the post-Tetrarchic period. The situation in Egypt is the most dramatic. During the Tetrarchic period

²¹ The site find for Germany is Köln: Köln, *FMRD* 6.1, 1, 32–168.

²² The site find for Italy is River Liri: Bruce Frier and Anthony Parker, "Roman Coins from the River Liri," *NC* 1970, pp. 295–346; William E. Metcalf, "Roman Coins from the River Liri II," *NC* 1974, pp. 42–52; Liane Houghtalin, "Roman Coins from the River Liri III," *NC* 145 (1985), pp. 67–81.

²³ The site find for the Danube is Vienna: Wien, *FMRO* 9.

²⁴ The site finds for Egypt are Karanis: Rolfe A. Haatvedt and Enoch E. Peterson, *Coins from Karanis* (Ann Arbor, 1964); Oxyrhynchus: J. G. Milne, "The Coins from Oxyrhynchus," *JEA* 8 (1922), pp. 159–63.

²⁵ The site finds for Spain are Spain: Rafael Arroyo Ilera, "Volumen y procedencia de la Moneda Romana del 313 al 318 d c en el Territorio Valenciano," *Saguntum* 18 (1984), pp. 267–87; Conimbriga: Isabel Pereira, *Foullies de Conimbriga III les monnaie* (Paris, 1974, pp. 183–251. For the discussion on the mints and Diocese see M. Hendy, "Mint and Fiscal Administration under Diocletian, His Colleagues, and His Successors A.D. 305–324," *JRS* 62 (1972), pp. 75–82. His breakdown of regions follows Th. Mommsen, "Die fünfzehn Münzstätten der fünfzehn diocletianischen Diocesen," *ZfN* 15 (1887), pp. 239–50.

²⁶ The site finds for Greece are Athens: Margaret Thompson, *The Athenian Agora II: Coins* (Athens, 1954); Corinth: K. Edwards, *Corinth VI: The Coins* (Athens, 1933).

²⁷ The site finds for Turkey are Antalya: Sabaht Atlan, *Yillari Side Kazilari Sirasinda Elde Edilen Sikkeler* (Ankara, 1976); Tarsus: Dorothy Cox, *Excavations at Gözlu Kule, Tarsus 1*, ed. H. Goldman, 1950, pp. 38–84; Sardis and Aphrodisias: T. V. Buttrey, *Greek, Roman, and Islamic Coins from Sardis* (Cambridge, 1981).

²⁸ The site finds for Palestine are Antioch: D. Waage, *Antioch on the Orontes IV* (Princeton, 1952); Jerusalem: D. T. Ariel, "A Survey of Coin Finds in Jerusalem," *Liber Annuus* 30 (1982), pp. 323ff.

the Egyptian hoards contained only 37% from the mint of Alexandria, but for the post-Tetrarchic period 73%.

The fact that for each region the site finds and hoards show essentially the same percentages suggests that similar forces were at work. In both cases certain key facts exist. First, for regional areas the mint nearest the hoard or site dominates. Second, this regionalism is especially noticeable for the northern military or frontier provinces. Third, Spain, Greece, Palestine, Turkey, and North Africa have an extended pattern.

For the areas surrounding the Mediterranean basin the numismatic evidence complements the epigraphical, archaeological, and literary evidence suggesting communication on a wide scale. The following chart shows the percentage of coinage of each period by general location in the three major areas of the Empire.²⁹

AREA	West			Central			East		
MINTS	T	PT	SF	T	PT	SF	T	PT	SF
West	67%	72%	54%	25%	16%	11%	1%	10%	2%
Central	31%	17%	6%	50%	68%	58%	20%	12%	28%
East	6%	3%	5%	38%	21%	10%	56%	70%	70%

As seen, regionalism is strong but not exclusive. Mints from the three areas exist for all periods and regions. Finally, we may compare the circulation of the bronze coinage with the gold and silver. The distribution of these coins in the three areas of the Empire look like this:

HOARDS	Arras (gold)		Med. (gold)		Sisak (Silver)
MINT	T	PT	T	PT	T
West	68%	89%	17%	8%	.3%
Central	25%	9%	61%	81%	98%
East	7%	2%	22%	12%	1%

As the chart shows, the same broad distributions for gold appear. For Arras, Trier has the overriding influence. In the Mediterranean hoard,

²⁹ In this table the mints for the West are: London, Trier, Lugdunum, Carthage, Ostia, and Arles; for Central: Rome, Ticinum, Aquileia, Siscia, Sirmium, Serdica, and Thessalonica; for East: Cyzicus, Heracleia, Nicomedia, Constantinople, Antioch, and Alexandria.

Cyzicus is influential, similar to Africa's hoard of antoniniani. In both cases, Rome and Aquileia are important. For the silver hoard (Sisak), the central mints of Siscia, Rome, and Ticinum dominate.³⁰

The circulation of Diocletian's reformed coinage should therefore be seen as an indicator of communication between the various regions of the Empire. Certain areas show more regionalized distribution, while others indicate a wider and broader pattern. That Diocletian's nummus was successful can be seen in its stability, uniform character and its virtual dominance over the antoniniani. Its patterns of circulation indicate the complex interactions which took place during the late third and early fourth centuries.

³⁰ A. Jelocnik (above, n. 3), p. 52.

JOHN V AND ANNA OF SAVOY IN THESSALONICA (1351–1365): THE SERRES HOARD

(PLATES 14–15)

P. N. PROTONOTARIOS

In a private collection in northern Greece, I was able to study a hoard comprising 34 late Byzantine bronze coins and two blank flans from the mint of Thessalonica which was found in the mid-1980s in the region of Serres in Macedonia.¹ The hoard is similar to the Pella Hoard² but four times as large and adds more light to the activity of the mint of Thessalonica during the dark years of the semi-autonomy of the second largest city of the Byzantine Empire during the second half of the fourteenth century.

THE HISTORICAL BACKGROUND

John V Palaeologos succeeded his father Andronikos III on the Byzantine throne in 1341.³ He was barely nine years old, a circumstance which created a dispute over the regency which was

¹ My thanks are due to Mr. G. M. for permitting me to study this important hoard. I also thank S. Bendall for his help with the manuscript of this article.

² D. Nicol and S. Bendall, "Anna of Savoy in Thessalonica; the Numismatic Evidence," *Revue Numismatique* 1977, p. 87.

³ For more details see D. Nicol, *The Last Centuries of Byzantium, 1261–1453* (London, 1972) and Nicol and Bendall (above, n. 2).

claimed both by his father's best friend and Councillor, John Cantacuzenos, and his Patriarch, John Kalekas, who had the support of John V's mother, Anna of Savoy. Civil war soon broke out between the contending parties and, after six years of fighting, John Cantacuzenos succeeded in occupying Constantinople in February 1347. The Patriarch Kalekas was deposed and it was agreed that John V should reign jointly with John Cantacuzenos (John VI). John VI was crowned emperor in May 1347 and gave his daughter Helen in marriage to John V.

During the civil war, in 1342, the city of Thessalonica had been taken over by an aristocratic religious sect calling themselves the Zealots. Their strict autocratic and dictatorial regime caused chaos in the city. Disagreement among the sect's leaders led eventually to their decision in 1350 to surrender the city to Stephan Dusan of Serbia.

To confront this danger, John Cantacuzenos, accompanied by his son-in-law and co-emperor John V, set out for Thessalonica and succeeded in fighting his way into the city from the sea. The ringleaders of the Zealots were arrested and exiled. The majority of the inhabitants of the city welcomed the arrival of the emperors who proceeded to restore law and order. The Serbian armies, which had already overrun most of Macedonia and had laid siege to Thessalonica, withdrew.

After recovering the ground lost to the Serbians, John Cantacuzenos returned to Constantinople at the end of December 1350 leaving John V to rule in Thessalonica. John V, however, was still aiming to recover his throne and become sole emperor and began to intrigue against Cantacuzenos. John V's councillors advised him to negotiate with Stephan Dusan who, it was hoped, would help him recover his throne.

Cantacuzenos countered this threat by asking John V's mother, the Empress Anna of Savoy to go to Thessalonica and reason with her son. This she did, persuading John V to reject those who had advised him to ally himself to the Serbians. Anna finally visited Stephan Dusan in his camp near the city and persuaded him to withdraw. After this diplomatic triumph Anna remained in Thessalonica for the rest of her life, at first ruling jointly with her son until his departure in January 1352 and then as sole semi-autonomous ruler until her death in 1365.

In 1352 civil war broke out between John V and John VI's son Matthew who ruled the city of Adrianople. As a result, John VI exiled John V and his family to the island of Tenedos. In March 1353 John V

tried again to wrest control of Constantinople from John VI who finally lost patience with him, disinheriting him in favor of his son Matthew. The position of Anna of Savoy, however, remained unchanged.

In 1354 John V tried again, with the help of the Genoese, and this time he succeeded in occupying Constantinople. John VI abdicated and John V became sole emperor. Anna of Savoy remained in control of Thessalonica as Augusta and Autokratorissa and she died there about 1365 as an orthodox nun with the name Anatasia.

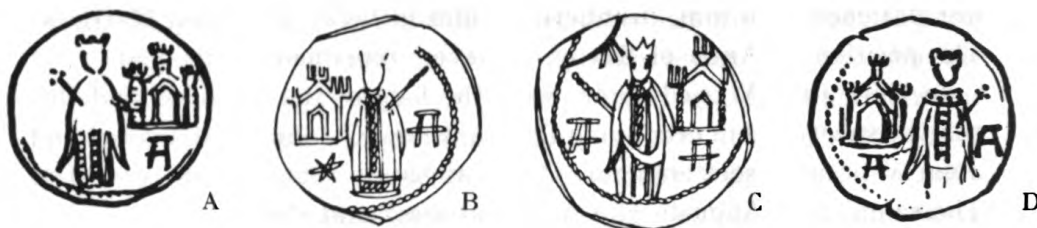
THE COINS

Coins of Anna of Savoy struck at Thessalonica were unknown until Nicol and Bendall published the Pella Hoard in 1977,⁴ identifying the coins and placing them in their historical context. A few of these coins had previously existed in public collections but because of their crude style, reminiscent of Venetian or Serbian imitations, they were either wrongly attributed or remained unidentified.

The change of style between these new coins and those previously known as Thessalonican seems to have been due to the eight-year hiatus caused by the Zealot revolt which interrupted the long and fine artistic tradition of the Thessalonican mint. The arguments of Nicol and Bendall regarding this change of style seem convincing. Among the changes are, apart from the overall style, the features and crown of the emperor. Prior to the Zealot revolt the emperor tended to be depicted with a long face, terminating in a pointed beard, and wearing a wide crown or stemma which often extended to either side of his head. On the post-1350 coins, the emperor is shown with a round chin and a small crown rather like a skull cap (*kamelaukion*). The letters identifying John and Anna are of a square form, being written **И** and **А** rather than **B** and **A**. All these features show western influence and appear suddenly on the coinage, rather than developing gradually from the pre-1342 coinage. A further indication of a gap in the production of coins at Thessalonica between 1342 and 1350 is that many of the coins struck by Anna as sole ruler in Thessalonica after John V's departure in 1352 are

⁴ Nicol and Bendall (above, n. 2).

OBVERSES



REVERSES



overstruck on the first joint issue of John V and Anna struck in 1351 but not on other earlier issues as might have been expected if the production of coinage had not been interrupted by the Zealot revolt.

Thus we have two general issues (type 1 and 2) struck between 1351 and 1365. The first represents John V and Anna side by side on the

obverse with a standing figure of St. Demetrius on the reverse, and must have been struck between August 1351 and January 1352 when mother and son ruled together in Thessalonica.

The second group of coins are very varied but they show Anna of Savoy on one side of the coin, holding a model of the city, generally identified by the letter A, and on the other side, John V, identified solely by the letter B, the badge of the Palaeologan dynasty. There are many varieties of this second group; sometimes Anna holds the city model in her right hand, sometimes in her left; John holds his scepter in right or left hand; a *Manus Dei* appears above Anna or above John, and coins exist with many combinations of these representations. The Sevres hoard, as might be expected from the numbers present, produces new varieties unknown in the Pella hoard. The number of different varieties indicates that the coinage was possibly originally quite prolific, produced by Anna to supply the inhabitants of Thessalonica and the surrounding regions with small change as the localities of both hoards suggest. All the known varieties of group 2 are shown in the accompanying drawings.⁵ The hoard is illustrated in Plates 14–15.

CATALOGUE

ANDRONICUS III (1328–41)

1. *Obv.* Emperor standing on l. before enthroned St. Demetrius.
Rev. Double-headed eagle.
 1.05 g. *Later Palaeologan*,⁶ p. 206, 4; *Private Collection*,⁷ p. 318.
 In *Later Palaeologan* Bendall attributed this coin to Andronicus II since the only specimen known to him had been illustrated by an enlargement so that the exact size of the coin was uncertain. The coin was also so badly illustrated and preserved that it was not possible to see that St. Demetrius was seated and this was

⁵ Thanks are due to Akylas Millas for drawing the new obverses (B, C, and E) and reverses (A and D).

⁶ S. Bendall and P. J. Donald, *The Later Palaeologan Coinage, 1282–1453*, (London, 1979).

⁷ S. Bendall, *A Private Collection of Paleologan Coinage* (London, 1988).

corrected in *Private Collection* on the basis of another poorly preserved coin but there the piece was attributed to John V at Thessalonica after 1365. Its presence in this hoard enables us to see that it must predate 1342 and thus be an issue of Andronicus III.

2. *Obv.* Emperor standing, holding cross in circle on staff and scepter.
Rev. Patriarchal cross with single wing to r.; **B** on l.
 0.98 g. *Later Palaeologan*, p. 218, 22; *Private Collection*, p. 243.
 Again, although identified as Andronicus II in *Later Palaeologan*, it seems likely that this is an issue of Andronicus III.
3. *Obv.* Emperor on horseback r.; **B** to l., star to r.
Rev. St. Demetrius on horseback r.; **Δ** to l.
 1.20 g. *Later Palaeologan*, p. 242, 15; *Private Collection*, p. 267;
 Pella hoard 1.

ANNA OF SAVOY AND JOHN V (CA. 1341)

- 4-5. *Obv.* **AN...** to l., **IWANC** to r. Half-length figures of Anna l., and John r., holding patriarchal cross between them.
Rev. **ΟΑΓ ΔΗΜΙΤΡ** Three-quarter figure of St. Demetrius in military dress.
 0.80 and 1.90 g. *Later Palaeologan*, p. 246, 1; *Private Collection*, p. 274.

Based on style these coins pre-date the Zealot revolt and since coins of this type are overstruck with coins which seem to depict Andronicus III and John V, they were presumably struck in Andronicus III's lifetime. Bendall described the cross on the obverse as a long cross since, although it had a second crossbar, the shaft did not seem to project above it. Here, however, it does, making it a patriarchal cross.

ANNA OF SAVOY AND JOHN V IN THESSALONICA (1351-52)

Type 1

- 6-15. *Obv.* John l., and Anna r., stars between floral ornaments flanking; above, *Manus Dei*.

Rev. St. Demetrius standing in military dress, holding spear and shield; stars in field and floral ornaments to l. and r.

1.05, 0.80, 0.98, 0.70, 0.55, 0.90, 0.65, 1.82, 1.00, and 1.05 g. *Later Palaeologan*, p. 246, 2; *Private Collection*, p. 284, A; Pella hoard, p. 97, 2, pl. 9, 4A and 4B.

With one or two exceptions, all the coins are clipped.

ANNA OF SAVOY IN THESSALONICA (1354–65)

The Serres hoard adds more obverse and reverse combinations to those already known, even though some issues in the Pella hoard are not present here. Because the types, while different, are basically so similar, the obverses and reverses are described below and the combinations are given in tabular form.

Type 2

Obverses in Serres Hoard

- 16–19. A. Anna standing, holding city in l. hand and scepter in r.; A in lower r. field. Pella hoard 4; *Later Palaeologan*, p. 248, 2; *Private Collection* 310.
- 20–23. B. Anna standing, holding city in r. hand and scepter in l.; star in lower l. field, A in r. field. Pella hoard, *Later Palaeologan*, and *Private Collection* not.
- 24–25. C. Anna standing, holding city in l. hand and scepter in r.; *Manus Dei* in upper l. field, A in lower l. and lower r. field. Pella hoard, *Later Palaeologan*, and *Private Collection* not.
- 26–28. D. Anna standing, holding city in r. hand, scepter in l.; A in lower r. and lower l. field. Pella hoard 7 and A; *Later Palaeologan*, p. 250, 5–6; *Private Collection* 313.
- 29–33. E. Anna standing, holding city in r. hand and scepter in l.; *Manus Dei* in upper l. field, star in lower l. field and A in lower r. field. Pella hoard, *Later Palaeologan*, and *Private Collection* not.

Obverses not in Serres Hoard

- F. Anna standing, holding city in l. hand and scepter in r.; *Manus Dei* in upper r. field; ☐ below; ☐ in lower left field. Pella hoard 3; *Later Palaeologan*, p. 248, 1; *Private Collection* 309.
- G. Anna standing, holding city in r. hand and scepter in l.; *Manus Dei* in upper l. field, ☐ below; stars in r. field. Pella hoard 5; *Later Palaeologan*, p. 248, 3; *Private Collection* 311.

Reverses in Serres Hoard

- 16–19, A. John standing, holding scepter in r. hand and akakia in l.; *Manus Dei* in upper r. field, ☐ below. Pella hoard, *Later Palaeologan*, and *Private Collection* not.
- 20–22, B. John standing, holding scepter in r. hand and akakia in l.; *Manus Dei* in upper r. field; ☐ in l. field. Pella hoard 6; *Later Palaeologan*, p. 250, 4; *Private Collection* 312.
- 23–25, C. John standing, holding akakia in r. hand and scepter in l.; *Manus Dei* in upper l. field and ☐ below. Pella hoard 4; *Later Palaeologan*, p. 248, 2; *Private Collection* 310.
- 32, 34. D. John standing, holding scepter in r. hand and akakia in l.; star and ☐ in r. field. Pella hoard, *Later Palaeologan*, and *Private Collection* not.

Reverses not in Serres Hoard

- E. John standing, holding scepter in r. hand and akakia in l.; ☐ and star to l.; stars to r. Pella hoard 3 and B; *Later Palaeologan*, p. 248, 1, and p. 252, 7; *Private Collection* 309.
- F. John standing, holding scepter in r. hand and akakia in l.; *Manus Dei* in upper r. field, stars and ☐ below; ☐ in left field. Pella hoard 5; *Later Palaeologan*, p. 248, 3; *Private Collection* 311.
- G. John standing, holding scepter in r. hand and akakia in l.; *Manus Dei* in upper r. field. Pella hoard A; *Later Palaeologan*, p. 250, 6.

OBVERSE/REVERSE COMBINATIONS OF TYPE 2

<i>Coin</i>	<i>Obverse</i>	<i>Reverse</i>	<i>Weight</i>	<i>Notes</i>
16	A	A	2.40	16–25 overstruck on coins of type 1 (6–15)
17	A	A	1.15	
18	A	A	1.08	
19	A	A	1.12	
20	B	B	1.00	
21	B	B	1.48	overstruck on type 1
22	B	B	0.85	
23	B	C	1.05	
24	C	C	1.17	
25	C	C	1.88	
26	D	B	0.65	
27	D	B	0.90	
28	D	B	0.68	
29	E	A	0.70	
30	E	B	1.22	
31	E	B	1.15	two flans weighing 1.00 and 1.22
32	E	C	0.70	
33	E	D	0.75	
34	(?)	C	1.22	
35–36				

Combinations Not in Hoard

Pella 4	A	C	2.00	
Pella 7	D	C	1.38	overstruck on type 1
Pella 3	F	E	1.09	
Pella 5	G	F	1.03	possibly overstruck on type 1
Pella A	D	G	–	

The five obverse and four reverse types present in the hoard produced nine combinations. The Pella hoard had only five coins of type 2 also struck from five obverse and four reverse dies; however it lacked two obverses and two reverses present in the Serres hoard but contained two of each that the Sevres hoard lacked. Between them therefore, the two hoards had seven obverse and six reverse types, combined to produce 14 different varieties. Under the circumstances, it is quite possible that there remain new types and new combinations of existing types to be discovered. Since there are no die duplicates present in either hoard,

application of the various formulas used to determine the number of dies is pointless.

The Serres hoard is certainly later in date than the Pella hoard. There exist no coins of John and Anna's type 1 coinage that have not been severely clipped. However, coins of type 2 which are both unclipped and overstruck on type 1 (16, *Private Collection* 310.2, and Pella hoard A) indicate the original weight of type 1. The weights of 16 and *Private Collection* 310.2 are 2.40 and 3.25 g respectively. The following coins (18–25) are also overstruck on type 1 but clipped down considerably. On the other hand, coins with obverses D and E are, with one exception, not overstruck on the previous type but struck on specially prepared flans which are smaller and, if clipped, are clipped more neatly, preserving the roundness of the coin in contrast to coins with obverse types A–C which are clipped much more crudely. The weights also show a steady decline with most of the clipped and overstruck coins in the Serres hoard weighing more than one gram, while the later coins that are not overstruck (26–33) weigh less than one gram. The Pella hoard coins, however, all weigh more than one gram.

If the Pella hoard is earlier than the Serres hoard, then the coins present in the Pella hoard that are absent from the Serres hoard are missing by chance. In view of the number of combinations possible, this seems quite logical. Since the Pella hoard was a deposit of the late 1350s, we may be able to say that the Serres hoard was a hoard of the early 1360s.

REWEIGHING BALOG'S GLASS COMMODITY WEIGHTS

A. ERAN

During the preparation of a report on the weights from the Islamic strata at ancient Ashkelon excavated under Prof. L. E. Stager, Harvard University, information reached the author about uncertainty regarding some of the weights in the Paul Balog Collection of glass weights as reported in his catalogue.¹ Dr. Michael Bates, Curator of Islamic Coins of the American Numismatic Society, informed the author that Balog had weighed each object on whatever balance had been available to him resulting in disparities. This became apparent during the comprehensive reweighing and registering of the glass weights at the A.N.S. However, the first stage of registering the glass objects of the A.N.S. focused on the coin weights, not the heavy weights and the commodity weights. When it was explained to Dr. Bates that for the investigation of the Ashkelon stone weights it was the larger Islamic glass weights that were to form the reference material, he very kindly reweighed the majority of those glass weights which Balog had considered for determining and classifying the weight standards in Islamic Egypt and Syria.

In the catalogue of this article, the relevant weights are organized following Balog's "Specimens Analyzed."² On the basis of the weights

¹ Paul Balog, *Umayyad, 'Ābbasid and Tūlūnid Glass Weights and Vessel Stamps*, ANSNS 13 (1976).

² Balog, pp. 13–19.

together with remarks by Dr. Bates on the state of preservation of the objects, the author has updated Balog's analysis. Weights of damaged or deteriorated pieces are enclosed in square brackets; the actual weights as stated by Balog and as found in reweighing the item are recorded in columns 4 and 5. In addition the calculated ratl value is stated for each item. It is for these ratl values that any difference between the result of the reweighing and Balog's figure is stated in column 6 as \pm grams. In column 7, the amount of change in percent is given.

In order to analyze the differences found in the reweighing, a tabular Summary is given. Percentages are grouped in steps of one-eighth of one percent (i.e. 0.125%). The Summary shows that the majority of differences is among the weights of the Abbasid standard, i.e., twenty-eight increases, eight decreases, and one piece without any difference. All except three weights show differences of less than one percent.

SUMMARY

There are 89 items in Balog's analysis, 55 from his collection and 34 taken from other collections for comparative purposes. Of the Balog items, 8 were unavailable, 6 were too heavy for the equipment used, and 1 had deteriorated, so that 40 were reweighed. An additional 4 items have since been weighed and the summary below includes 44 items.

<i>Weight Differences in Percent</i>	<i>Umayyad Standard</i>		<i>Abbasid Standard</i>		<i>Ratl Kabir Standard</i>		<i>All Three Standards</i>		<i>Total</i>
	+	-	+	-	+	-	+	-	
None	-	-	-	1	-	-	-	1	1
Under 0.125	3	-	6	1	-	1	9	2	11
0.125-0.249	1	-	11	-	-	-	12	-	12
0.25-0.374	-	-	1	1	-	-	1	1	2
0.375-0.499	1	-	1	2	-	-	2	2	4
0.50-0.624	-	-	-	-	-	1	-	1	1
0.625-0.749	-	-	2	-	-	-	2	-	2
0.750-0.874	-	-	7	1	-	-	7	1	8
Over-0.875	-	-	-	3 ^a	-	-	-	3	3
<i>Total</i>	5	-	28	9	-	2	33	11	44

^a 714, 1/2 ratl, -22.984 g; 658, 1/4 ratl, -7.596 g; 806, 1/2 wuqiyya, -11.184 g, all calculated for the full ratl equivalent.

There are three pieces of the Abbasid ratl system which show outsize discrepancies. They have been described by Balog as intact: 714, a half ratl piece; 806, a half wuqqiyya weight; and 658, a quarter ratl piece, for which in 1988 some "slight devitrification" has been noted. One assumes that if Balog had made a calculation of the ratl units for each piece, he would have had second thoughts about including these three items among his selection of "Specimens Analyzed," and certainly their omission would not have changed his conclusions regarding the size of the Abbasid weight units.

For the Egyptian Umayyad standard the 1988 reweighing showed five increases: three of under 0.125% and two of 0.24% and 0.46% respectively. Among the three weights of the ratl kabir standard in Balog's collection were two pieces found to have a decreased weight, one by 0.51% and the other by 0.013%.

In order to evaluate these data and their influence on Balog's considerations and classification of commodity weight standards it appears advisable at first to review Balog's approach to this classification. Balog based his classification of the commodity glass weights on the items in his own collection as described and studied in his catalogue of 1976 and on relevant artifacts previously published. He further sought assurance for his considerations and conclusions from Sauvage's work (1884-85) on medieval Arabic metrological treatises.

At the outset Balog stated that "hundreds of fragments of heavy glass weights have been found in excavations in Egypt. Intact specimens..., however, are very rare indeed."³ He went on to point out that, in trying to determine the exact weight standard employed, the greater the number of well-preserved pieces that could be scrutinized, the greater would be the accuracy that resulted. He therefore tried to select only the best preserved pieces for his analysis.

He included among the specimens analyzed, not only "perfectly-preserved, complete specimens" but "also pieces which have lost a small percentage of their original weight either through accidental chipping or through scaling, devitrification (oxidation) in the soil." "These were included" he points out, "not to establish the original exact weight of the piece, but rather to demonstrate that they belong to the same

³ Balog, p. 10.

category as the similar intact weight....Thus the figures in the tables are the result of the best-preserved weights and not of the average or of frequency peaks, as is usual in the case of coins.”⁴

It is therefore not a theoretical standard that Balog was describing but rather a range into which pieces based on the same standard could be grouped. Balog has applied here, as has been practiced so often in metrological research, the method of citing and relying on selected, indicative weights.

Turning to the actual size of the differences found in the reweighing of the glass commodity weights, they are surprisingly small. At less than 1% they are no greater than the deviations often found in stone weights from the standard value they appear to represent. In stone weights such deviations may have been caused by using an incorrect prototype for producing the replica, by weighing on an indelicate balance, by using the balance in an unsuitable way, or by some other inappropriate method. The deviation may also have come about through loss of weight from prolonged or improper usage, or unsuitable safekeeping, or in consequence of loss of material often so slight as to escape observation.

Finally Balog found corroboration in the data for ratl weights in Sauvaire’s lists for the weight standards he saw indicated by the best of the glass weights known to him from his collection and from earlier publications. He expressed this use of Sauvaire’s metrological data, however, the other way round: he could, so he wrote, “also identify the corresponding figures [for ratl weights] in Sauvaire’s lists.”⁵

Although critical of Sauvaire’s work, Balog held that “Sauvaire’s compilation of an astounding amount of metrological data from mediaeval Arabic sources remains one of our main sources of information.”⁶ He therefore discussed the main Egyptian ratl systems as he found them represented by the best preserved glass weights in comparison to Sauvaire’s data. Regarding the Egyptian Umayyad ratl, Balog

⁴ Balog, pp. 12–13.

⁵ Balog, p. 12.

⁶ Balog, p. 11.

referred to Sauvaire's "ratl Mesry of 444 g," which Sauvaire reported from seven different literary sources.⁷ Misleadingly this ratl is indicated in Balog's Table 1 and again at the beginning of his discussion as weighing only 440 g; later on, he refers to the Umayyad ratl of ca. 444 g. He held that the Umayyad wuqiyya unit, of which he had five intact specimens in his collection, each weighing ca. 37 g, closely approximated Sauvaire's theoretical weight for the unit of 37.076 g.

Regarding the Abbasid ratl,⁸ Balog refers to the two weights of 395.49 g and 397.26 g listed by Sauvaire, with wuqiyya values of 32.95 g and 33.105 g respectively. (Balog erred with his calculation of 32.91 g for the smaller wuqiyya weight.) When Balog found evidence for thirteen intact Abbasid wuqiyya glass weights with an average weight of 32 g, he felt the figure to be too low and left open the question of which of Sauvaire's two ratl weights should be regarded as the true Abbasid ratl until further evidence was at hand. But he entered in his Table the approximate values of 395 g and 33 g respectively.

Regarding the ratl kabir,⁹ Balog placed its weight at ca. 493 g and identified several ratls in Sauvaire as being equivalents i.e., the ratl folfol and the ratl of Qarawan together with some others outside Egypt. These were all listed by Sauvaire as weighing 494.368 g.

The reweighing of the weights does not affect Balog's tentative conclusions regarding the different ratl/wuqiyya systems in Islamic Egypt. The corrections have been found to be generally very small indeed. If any review of Balog's classification of the ratl/wuqiyya systems is to be done, it must be done within a wider survey of artifacts and documentary sources.

⁷ M. H. Sauvaire, *Matériaux pour servir à l'histoire de la numismatique et de la métrologie musulmanes* (Paris, 1882), vol. 4, pp. 310–11, and Balog, p. 19.

⁸ Sauvaire, vol. 2, pt. 2, p. 302, and Balog, p. 20.

⁹ Sauvaire, vol. 2, pt. 2, p. 311, and Balog, p. 21.

Balog's "Specimens Analyzed" Reweighed

Cat. No./Reference and Shape ^a	Details ^b	Preservation	Weight:		Weight Deviation	
			Absolute and Balog 1976	Ratio Bates 1988	+/-g	+/-%
1	2	3	4	5	6	7

EGYPTIAN Umayyad Standard

Ratt

440 D	759-69	Intact, perfectly well preserved	433.67 1 x 433.67	Too heavy ^c	—	—
536 R	778-79	Intact, small chip missing	[435.07]	Too heavy	—	—
Launois 18 R	760-62	Absolument intact	441.00	—	—	—
Jungfleisch, pp. 64, 68 R	734-42		431.87	—	—	—

A. ERAN

^a D for disk shape and R for ring shape following the accepted but rather inappropriate shape description for the variety of stele shaped glass weights which are of triangular, rhomboid, or rotund outline, holed centrally from front to back and stamped on top. A list of authors and works follows this Table.

^b The following details derived from the stamp are recorded: dates associated with the named official; lack of knowledge about the official named; illegibility of the name of the official; anonymity of the weight; denomination on the stamp.

^c In the reweighing by Dr. Bates the modern instrument available had only a range of up to 400 g. Any item which therefore could not be checked is indicated as "too heavy."

REWEIGHING BALOG'S WEIGHTS

135

Cat. No./Reference and Shape ^a	Details	Preservation	Weight:		Weight Deviation	
			Absolute and Balog 1976	Ratio Relation Bates 1988	+/-g	+/-%
1	2	3	4	5	6	7
Jungfleisch, p. 63 ^d R	Unidentified official	Une cassure sur l'une des aretes	[437.20]	—	—	—
		<i>Wuqiyya</i>				
36 Oval D	717-20 (or 722)	Intact	36.63	36.763	+1.6	+0.24
407 D	759-60	Intact	1/12 x 439.56	1/12 x 441.16		
			36.82	36.988		
442 D	759-69	In perfect condition, surface almost brilliant	1/12 x 441.84	1/12 x 443.86	+2.02	+0.457
			37.50	37.507		
			1/12 x 450.00	1/12 x 450.08	+0.08	+0.018
443 D	759-69	As 442	37.36	37.370		
			1/12 x 448.32	1/12 x 448.44	+0.12	+0.027
444 D	759-69	As 442	37.98	38.001		
			1/12 x 455.76	1/12 x 456.01	+0.25	+0.055
			[35.95]			
Dudzus 5	749-50	A relatively small part of the whole broken away.	1/12 x [431.4]	—	—	—

^a This weight was in the Louvre (840 L.P. 2078) but is apparently lost. First referred to by Sauvaire (above, n. 7), vol. 4, pp. 240 and 310, who associated it with both 437 g and 437.2067 g, it was published by C. Mauss, *La Pile de Charlemagne et...; le ratl wafy du Musée du Louvre* (Paris, 1897) as 436.4 g. Jungfleisch, pp. 62-64, discussed it in detail and it is mentioned by A. Grohmann, *Einfuehrung und Chrestomathie zur Arabischen Papyrskunde* (Prague, 1954), p. 151. W. Hinz, *Islamische Masse und Gewichte umgerechnet ins metrische System* (Leiden, 1955), p. 3, calls it "aus fatimidischer Zeit stammend," but this attribution is refuted by Balog, p. 11.

* Balog, p. 14, erroneously reported the weight as 36.54 g.
' Balog, p. 14, erroneously reported the weight as 6.24 g.

REWEIGHING BALOG'S WEIGHTS

137

Cat. No./Reference and Shape ^a	Details	Preservation	Weight: Absolute and Ratl Relation		Weight Deviation	
			Balog 1976	Bates 1988	+/-g	+/-%
1	2	3	4	5	6	7
Miles 1958, 252 R						
		Intact but slightly chipped and flaked	[725.00] 2 x [362.5]	—	—	—
		<i>Ratl</i>				
640 R	808-13	Intact, but worn, a few small chips missing. Bates: minor chips, weathered	[385.25] 1 x [385.25]	[385.380] 1 x [385.38]	+0.13	+0.034
651 R	820-21 "Half ratl kabir" of legend. Bates:	Intact, poor state of legend. Bates: weathered	[382.67] 1 x [382.67]	[383.267] 1 x [383.267]	+0.547	+0.143
707 ^a R	856-67	Intact, a little worn. Bates: chipped	375.00	[372.130] 1 x 372.130	-2.87	-0.765
765 R	Unidentified official	Intact, less a few chips	[383.46] 1 x [383.46]	—	—	—
777 R	Unidentified official	Intact, light gray patina. Bates: devitrification, scaling	394.51 1 x 394.51	[395.251] 1 x [395.251]	+0.741	+0.188

^a This item was not used by Balog in his attempt to determine the various ratl systems. Indeed its weight is even less than Balog thought.

Cat. No./Reference and Shape ^e	Details	Preservation	Weight:		Weight Deviation	
			Absolute and Balog 1976	Ratl Relation Bates 1988	+/-g	+/-%
1	2	3	4	5	6	7
794 R	Anonymous	Nearly intact, a few chips missing; at bottom a few grams ground out. Bates: chipped	[392.83] 1 × [392.83]	393.330 1 × [393.330]	+0.5	+0.127
Miles 1948, 110 R	834-44	Chipped at one side and on top around periphery of concavity bearing stamp	[398.53] 1 × [398.53]	—	—	—
<i>Half Rail</i>						
385 R	759-60	Well preserved, but 3 chips missing; loss may not exceed 2-4%. Bates: many chips	[188.60] 1/2 × [377.20]	[188.385] 1/2 × [376.77]	-0.43	-0.114
400 R	759-60	Fairly complete, ca. 5-8% chipped away, estd. orig. 385.20 g. Bates: badly chipped, estd. 383.30 g	[180.00] 1/2 × [360.0]	[179.108] 1/2 × [358.22]	-1.78	-0.494
691 R	849-50	Intact, perfectly preserved, as on the day of emission	190.68 1/2 × 381.36	190.792 1/2 × 381.584	+0.224	+0.059

REWEIGHING BALOG'S WEIGHTS

139

Cat. No./Reference and Shape ^a	Details	Preservation	Weight:		Weight Deviation	
			Absolute and Ratl Relation Balog 1976	Bates 1988	+/-g	+/-%
1	2	3	4	5	6	7
704 ^b R	856-67	Light gray patina; some chipping, scaling at top, otherwise well pre- served. Bates: chip- ped loss ca. 10 g. Intact	[179.98] ca. 190.0 1/2 x 380.0	[180.189] ca. 190.0 1/2 x 380.0	—	—
714 ^b R	856-67		183.43 1/2 x 366.86 [179.85]	171.938 1/2 x 343.876	-22.984	-6.265
Viré 29 R	856-67	"Quelques éclats"	1/2 x [359.70] [171.00] ca. 194.62 1/2 x [389.24]	—	—	—
Miles 1958, 254 ^c R				—	—	—

^a Balog noted: "Inscriptions difficult to read owing to scaling....I did not dare prepare a plasticine impression for casting."
^b The difference between the two weighings amounts to 11.492 g., the difference in the ratl amounting to 22.984 g. This is extraordinary and cannot be explained. Was there a mistake in one of the two weighings, or a loss by accident or by deterioration, or a typographical error in the publication?
^c Miles noted: "imperfectly fused, surface flaked off almost completely on all faces except top and part of the bottom; the exposed core is heavily pitted and has the appearance of slag."

Cat. No./Reference and Shape	Details	Preservation	Weight:		Weight Deviation	
			Absolute and Balog 1976	Rail Relation Bates 1988	+/-g	+/-%
	1	2	3	4	5	6
Petrie 176 R	Stamp illegible	"loss of 3.89 g?"	191.00 1/2 x 382.00	—	—	—
Petrie 175 R	Anonymous		187.44 1/2 x 374.88	—	—	—
<i>Quarter Rail</i>						
657 R	831-47	Intact, one small chip missing, light gray patina	[93.45] 1/4 x [373.80]	[93.619] 1/4 x [374.48]	-0.68	-0.182
658 R	831-47	Intact. Bates:	93.74	[91.841]		
664 R	834-38	slight devitrification	1/4 x 374.96	1/4 x 367.364	-7.596	-2.026
		Intact, slightly	[93.37]	[93.375]		
		devitrified, but	1/4 x [373.48]	1/4 x [373.5]	+0.02	+0.005
		well preserved				
669 R	847-49	Intact, some	[94.08]	—	—	—
		devitrification	1/4 x [376.32]			
692 R	849-50	Intact	92.32	92.483	+0.652	+0.177
			1/4 x 369.28	1/4 x 369.932		
716 R	856-67	Intact except for	[90.66]	[90.688]		
		a small chip. Bates:	1/4 x [362.64]	1/4 x [362.75]	+0.11	+0.03
		slightly chipped				
797 R		Intact	97.67	97.859	+0.756	+0.194
			1/4 x 390.68	1/4 x 391.436		
798 R		Intact	96.21	96.377	+0.67	+0.174
			1/4 x 384.84	1/4 x 385.51		

REWEIGHING BALOG'S WEIGHTS

141

Cat. No./Reference and Shape ^a	Details	Preservation	Weight:		Weight Deviation	
			Absolute and Balog 1976	Ratio Bates 1988	+/-g	+/-%
1	2	3	4	5	6	7
Miles 1958, 255 ^b R	Anonymous "two wuqiyya" ?slightly chipped	Intact, but	[96.40] 1/4 x [385.60]	—	—	—
799 ^c R	Anonymous "Wuqiyya Kabir"		62.14	63.302	—	—
800 R	Anonymous "Wuqiyya Kabir"	See below, n. l.	1/12 x 372.84 59.60	-0.004 = 62.248 1/12 x 373.49 60.003	+0.648	+0.174
Petrie 252 "Flat ring"	Anonymous "Wuqiyya Kabir"	Loss of ca. 0.27 g	2/12 x 357.6 [65.83]	-0.004 = 59.999 2/12 x 360.0	+2.4	+0.671
Miles 1958, 239 D	Illegible	Intact	restd. 66.10 2/12 x 396.60	—	—	—
Miles 1963, 54 D	Illegible	Intact, but slightly pitted	2/12 x 351.30 [58.92]	—	—	—
689A ^m Oval D	849	One and a Half Wuqiyya Oxidized patina, iridescent, a	2/12 x 353.52 [47.67]	—	—	—

^b Although this quarter ratl is recorded twice under "Specimens Analyzed," Balog included it in the summarizing "Table I" only once.

^c Items 799 and 800 each have a paper tag attached and 0.004 g has been subtracted from the totals to compensate.
^m Balog, p. 16, erroneously cites this as 685A. It is in the collection of the Cabinet des Medailles, Paris, Y 28874 7 (1963). A. Launois published it as weighing 46.7 g, "Estampilles, poids, étalons monétaires et autres disques musulmans en verre," *Bulletin d'Études Orientale* 22 (1969), p. 83, 18. For the identification of the official, see Balog, p. 252.

Cat. No./Reference and Shape ^a	Details	Preservation	Weight:		Weight Deviation	
			Absolute and Ratl Relation Balog 1976	Bates 1988	+/-g	+/-%
1	2	3	4	5	6	7
592 ^a	787-804 "Wuqiyya"	little scaled. "La pièce intact." (Lau- nois 1969) A large splinter broken off at the base. Bates: Severely chipped fragment	[37.16] rest ca. 47.50 3/24 x 389.00	—	—	—
<i>Wuqiyya</i>						
654 D	830-31 and 843-47	Translucent with some devitrification	[31.50] 1/12 x 378.00	[31.710] 1/12 x 380.52	+0.02	+0.005
675 D	840-43 and 848-49		31.45 1/12 x 377.4	31.489 1/12 x 377.87	+0.47	+0.125
736 D	"259 H," 873	Intact	33.22 1/12 x 398.64]	—	—	—
737 D	868-83	Intact	32.13 1/12 x 385.56	32.231 1/12 x 386.77	+1.21	+0.314

^a This item "resembles a champagne-cork," Balog, p. 202. "Le verre...legerement patine et terni en surface; la cassure (malencoutreuse) est lisse, a bords coupants." Jungfleisch, "Le Système ponderal islamique dit 'Kebir,'" *Bulletin de l'Institut d'Egypte* 38 (1955-56), p. 303, restored this fragment with a paste of plasticine and bees wax and determined the volume of the reconstituted part and the specific weight of the glass. Using these data he calculated the weight of the missing part and arrived at 47.82 g for the original piece. Allowing a margin of error he proposed 47.50 g as the original weight and accepting the denomination "wuqiyya" stamped on the artefact explained it as a wuqiyya kabir (47.50 g = 1/12 of 570 g).

REWEIGHING BALOG'S WEIGHTS

143

Cat. No./Reference and Shape	Details	Preservation	Weight: Absolute and Rall Relation		Weight Deviation	
			Balog 1976	Bates 1988	+/-g	+/-%
1	2	3	4	5	6	7
801 R	Anonymous	Intact	33.49 1/12 x 401.88	33.618 1/12 x 403.42	+ 1.54	+ 0.383
803 D	Anonymous	Intact	31.92 1/12 x 383.04	31.927 1/12 x 383.12	+ 0.08	+ 0.0214
804 D	Anonymous "Half Wuqiyya"	A chip missing. Bates: a big chip missing	[29.24] 1/12 x [350.88]	[29.231] 1/12 x [350.772]	-0.108	-0.308
Lane-Pool 27G D	834-44 "Half Wuqiyya"		34.02 1/12 x 408.24	—	—	—
Miles 1964, 52 D	831-47		31.37 1/12 x 376.44	—	—	—
Miles 1951, 32 D		A few minor chips, some pitting, otherwise intact	[31.50] 1/12 x [378.00]	—	—	—
Petrie 255 D	"Wuqiyya"		31.687 1/12 x 380.25	—	—	—
Petrie 256 D	"Wuqiyya"		31.32 1/12 x 375.84	—	—	—
Petrie 254 D	"Wuqiyya"		31.247 1/12 x 374.96	—	—	—
<i>Half Wuqiyya</i>						
661 D	831-47	Intact	16.03 1/24 x 384.72	16.138 1/24 x 387.31	+ 2.59	+ 0.673

Cat. No./Reference and Shape ^e	Details	Preservation	Weight:		Weight Deviation	
			Absolute and Ratl Relation Balog 1976	Bates 1988	+/-g	+/-%
1	2	3	4	5	6	7
676° D	840-49	Intact	15.73 1/24 x 377.52	15.757 1/24 x 378.17	+0.65	+0.172
681 R	847-49	Intact	15.90 1/24 x 381.6	—	—	—
682 R	844-49	Intact, slightly devitrified	15.63 1/24 x 375.12	—	—	—
683 R	844-49	Intact	15.60 1/24 x 374.4	—	—	—
693 D	849-50	Intact	15.51 1/24 x 372.24	15.638 1/24 x 375.312	+3.072	+0.825
702 D	852-56		15.94 1/24 x 382.56	15.974 1/24 x 383.38	+0.82	-0.214
717° D	856-67	Bates: broken in two parts and repaired	16.08 1/24 x 385.924	16.212 1/24 x 389.09	+3.17	+0.821
718 D	856-67		15.95 1/24 x 382.8	16.070 1/24 x 385.68	+2.88	+0.752
719 D	856-67	Devitrification	[15.54] 1/24 x [372.96]	[15.552] 1/24 x [373.25]	+0.29	+0.078
727 D	867-68		15.77 1/24 x 378.48	15.897 1/24 x 381.53	+3.05	+0.806

^e This item was not used by Balog in his outline of the various ratl systems.

^p We do not know when the repair was made. The difference may therefore be due to the glue used in joining the fragments. Grohmann (above, n. d), p. 145, reports on a half wuqiyya weight in his collection weighing 16.120 g.

REWEIGHING BALOG'S WEIGHTS

145

Cat. No./Reference and Shape ^a	Details	Preservation	Weight:		Weight Deviation	
			Absolute and Ratl Balog 1976	Relation Bates 1988	+/-g	+/-%
1	2	3	4	5	6	7
728 D	867-68		15.70 1/24 x 376.80	[15.625] 1/24 x [375.00]	-1.8	-0.478
729 D	867-68		15.58 1/24 x 373.92	15.617 1/24 x 374.81	+0.89	+0.238
805 D	Anonymous "One quarter"	Translucent, badly fused. Bates: seems intact despite fusing	[16.63] 1/24 x [399.12]	[16.769] 1/24 x [402.456]	+3.336	+0.836
806 ^b D	Anonymous "Wuqiyya"	Intact	15.67 1/24 x 376.08	15.204 1/24 x 364.896	-11.18	-2.974
807 ^c Oval D	Anonymous "Quarter dir- ham kayl"	Intact	16.64 1/24 x 399.36	16.782 1/24 x 402.77	+3.41	+0.854
Miles 1958, 193 D	834-44	Intact	15.74 1/24 x 377.76	—	—	—
Miles 1958, 195 D	840-49	Intact	16.06 1/24 x 385.44	—	—	—
Miles 1958, 245 D		Intact	16.11 1/24 x 386.64	—	—	—

^a The weight difference is incredibly large resulting in a ratl deviation of -11.18 g.
^b Balog noted: "The denomination is a puzzle..., the dirham kayl weighs 2.95 g and this figure has no relation to the weight of the piece. On the contrary the piece seems to fit as a half wuqiyya of the later Abbasid ratl."

Cat. No./Reference and Shape ^a	Details	Preservation	Weight: Absolute and Ratl Relation		Weight Deviation	
			Balog 1976	Bates 1988	+/-g	+/-%
1	2	3	4	5	6	7
<i>Fifth Wuqiyya</i>						
Miles 1963, 59 D		Intact but worn	[5.89] 1/60 × [353.4]	—	—	—
RATL KABIR STANDARD						
<i>Ratl Kabir</i>						
572 R	781-92	Intact, perfectly preserved	493.63	Too heavy	—	—
Miles 1963, 33 R	781-92	Intact except for a small chip at top	[492.60] 1 × [492.60]	—	—	—
<i>Half Ratl Kabir</i>						
791*	Unidentified official "Quarter ratl"	Intact. Some loss [may have to be] taken into consideration	[237.02] 1/2 × [474.04]	[236.898] 1/2 × [473.496]	-0.244	-0.51
Petrie 174 R	Anonymous "Quarter ratl"	Chipped	[233.461] orig. 236.52 1/2 × 473.04			

* The shape of this weight can be described as a truncated rectangular pyramid centrally holed from front to back.

REWEIGHING BALOG'S WEIGHTS

147

Cat. No./Reference and Shape ¹	Details	Preservation	Weight:		Weight Deviation	
			Absolute and Balog 1976	Ratl Relation Bates 1988	+/-g	+/-%
1	2	3	4	5	6	7
<i>Quarter Ratl Kabir</i>						
589 D	787-96	Intact	123.35 1/4 x 493.4	123.366 1/4 x 493.46	-0.064	-0.013
<i>Dahmas Standard</i>						
802 ¹ Oval D	Anonymous "Three [Dahmas]"	Two small chips missing	[28.18] 3 x [9.3933] 1/12 x [338.16]	—	—	—
SYRIAN Umayyad STANDARD						
<i>Ratl</i>						
Ettinghausen, p. 73	"126 H," 745-49	Perfectly preserved, one tiny chip	337.55 1 x 337.55	—	—	—

¹ Considering "two small chips" are missing, the weight of this three-Dahmas piece is reasonably near a wuqiyya of Balog's Syrian Umayyad weight system. On the attribution to the dahma-unit see Balog, p. 289.

Cat. No./Reference and Shape ^a	Details	Preservation	Weight:		Weight Deviation	
			Absolute Balog 1976	and Ratl Relation Bates 1988	+/-g	+/-%
	1	2	3	4	5	6
						7
Abd-el-Kadar, p. 139 ^a	704-5	defaults du verre...causes par l'irrisation	[175.50] orig. 175.00 1/2 x 350.00			
Abd el-Kadar, p. 140 Cylindrical D	704-5	As desribed for the half ratl	87.00 1/4 x 348.00			
795 ^a Irregular block	Anonymous "Year 88 H"	Intact, badly fused, heavily striated, very inferior glass, rather glasspaste. Bates: very deterio- rated	[291.60] 1 x [291.60]			

^a The half-ratl piece has the shape of an upturned truncated cone positioned on a small base. The larger base was impressed with the stamp. Balog's proposal to call artifacts of this shape "block weights" is unfortunate and inexact (as is in fact the term "ring-weight" which has however gained general acceptance). Both the half ratl and the quarter appear to have been found together.

^b In his first publication of this weight, Balog, "Deux poids forts Omayyades en verre, datés de l'an 88 H.," *Bulletin de l'Institut d'Égypte* 37 (1954-55), p. 25, estimated the loss at 10-20 g. Adding therefore ca. 15 g to the recorded 291.60 g one obtains an original weight of ca. 306.60 g. Balog proposed that the legend on the piece be understood as referring to a much earlier standard, which he found in a Greek-Byzantine libra of 297.945 g, see Sauvage (above, n. 7), p. 307. He did however not use this "exceptional weight" in classifying the commodity weight standards. The piece has been discussed by Miles 1958, p. 260, and Balog came to agree, p. 287, that it "must have been issued during the second half of the third century H."

ABBREVIATIONS USED IN THE TABLE

- Abd-el-Kader, D., "Deux unités pondérales musulmanes Omayyades," *Berytus* 2 (1935), pp. 139–42, figs. 1 and 4.
- Dudzus, W., "Ummayyadische glaeserne Gewichte und Eichstempel aus Aegypten in den Berliner Museen," *Festschrift für Ernst Kuehnel* (Berlin, 1961), pp. 275–82.
- Ettinghausen, R., "An Umayyad Pound Weight," *Journal of the Walters Art Gallery* 2 (1939), pp. 73–76.
- Jungfleisch, M. C., "Les Ratls discoïde en verre," *Bulletin de l'Institut d'Égypte* 10 (1927/28), pp. 62ff.
- Lane-Poole, S., *Catalogue of Arabic Glass Weights in the British Museum* (London, 1893).
- Launois, A., *Estampiles et poids musulmans en verre du Cabinet des Médailles*, Art Islamique 4 (Cairo, 1959).
- Miles, G. C.:
 1948, *Early Arabic Glass Weights and Stamps*, ANSNM 111 (1948)
 1951, *Early Arabic Glass Weights and Stamps: A Supplement*, ANSNM 120 (1951)
 1958, *Contributions to Arab Metrology. Early Arabic Glass Weights and Measure Stamps Acquired by the American Numismatic Society 1911–1956*, ANSNM 141 (1958)
 1963, *Contributions to Arabic Metrology. Early Glass Weights and Measure Stamps in the Benaki Museum, Athens, and the Peter Ruthven Collection*, Ann Arbor, ANSNM 150 (1963)
 1964, "Early Islamic Weights and Measures in Muntaza Palace, Alexandria," *Journal of the American Research Centre in Egypt* 3 (1964).
- Petrie, F., *Glass Stamps and Weights, Illustrated from the Egyptian Collection of the University College*, London (London, 1926).
- Rice, D. S., "A Wuqiyah Weight of Wadih," *BSOAS* 17 (1955), p. 172.
- Sauvaire, H., "Matériaux pour servir à l'histoire de la numismatique et de la métrologie Musulmanes, II. Poids," *Journal Asiatique* 3 (1884), pp. 368–445; 4 (1884), pp. 207–321; 5 (1885), pp. 498–506.
- Viré, F., *Déniers, estampilles et poids musulmans en verre en Tunisie - Collection H. H. Abdul-Wahab*, Les Cahiers de Tunisie 4 (1956), pp. 17–19.

THE FLAWED PERUVIAN PROOF COINS OF 1886

(PLATE 16)

H. P. FLATT

In the collection of the American Numismatic Society, there is a set of silver and copper Peruvian coins dated 1886. Of these coins, only the one-sol coin had been made for many years. The copper coins had last been made in 1879, while the fractional silver coins had last appeared two years before, in 1877. The set is one of only a very few known and was intended to be a proof set. Yet it also has some of the attributes of pattern coins and influenced the subsequent design of Peruvian coins for very pragmatic reasons as a part of the aftermath of a disastrous war with Chile.

BACKGROUND

In May 1883 Enrique Staub, the Swiss operator of the Lima mint, fled from the capital city of Peru, defrauding many people who had left their silver bullion at the mint for conversion into coin. The Chilean authorities controlling Lima as a result of the defeat of the Peruvian forces in the War of the Pacific declared the mint officially closed in a decree of June 13. The machinery, tools, and equipment of the mint began deteriorating from the lack of use and care. The mint was reopened after the departure of the Chilean army in January 1884. While the first consideration of the new operator, the Bank of Callao, was the making of coins, orders were placed for ovens, crucibles, and other equipment.

The bank named Don Octavio Pardo as its primary and official representative at the mint on January 14, 1884. Five days later, their representatives entered the mint and took the customary inventory.¹ Operations resumed immediately: 19,300 soles were minted during January and a total of 1,762,200 soles during the year.² The first coins of the year bore the assayers' initials **BD** (José Calixto Barinaga and Héctor Davelouis, see Plate 16,1), but a Supreme Decree of May 31 named D. Félix Remy as the senior assayer. Thus coins appearing later in the year bore the initials **RD**.

The contract under which the Bank of Callao operated the mint provided that the principal officers of the mint remain the same. However, no provision was made for an engraver. Florencio Dávalos was apparently the assistant and he requested the help of the old apprentice Lizandro Ponce in order to keep up with the increased activity.³ At that time, there was no one in Peru qualified to prepare new matrices for the coins. This work required a very skilled artisan ("talla abridor") and Robert Britten, the original engraver of the matrices for the decimal coins of Peru, had died early in 1882. Because of the war and the costs of the services of such a skilled engraver, Britten had not been replaced. The last matrices had presumably been prepared in 1881 when there were many changes in the design of the soles. The punches for the letters were even older, dating back about 18 years.⁴ Existing coins of the period give mute testimony to the urgent need for new matrices and engraving tools of all kinds.

In addition to the soles, the contract also called for the Bank of Callao to mint fractional silver coins and copper coins at the request of those submitting bullion to the mint. As will be seen subsequently, the matrices and dies for the copper coins had apparently disappeared during the Chilian occupation of the mint, and it is quite possible that the same is true for the fractional silver coins. In any case, fractional silver coins had not been made since 1877, with paper money providing the primary currency for small business in 1884.

¹ Archivo General de la Nacion (A.G.N.), Legajo 133.

² J. G. Clavero, *Demografía de Lima* (Lima, 1885), p. 104.

³ A.G.N., Legajo 133, March 29, 1884.

⁴ A.G.N., Legajo 133, Nov. 22, 1885.

By June 27, Pardo, as the representative of the Bank, noted that an engraver was needed to prepare new matrices, for the newer coins were already beginning to differ from the older ones.⁵

THE INITIAL REQUEST

A request for matrices and engraving tools was sent to the Peruvian minister in London, Don Aurelio García y García, in a letter of July 9.⁶ The cover letter from the Finance Minister, Manuel Galup, enclosed three other documents, and made clear the "urgent necessity" of buying tools in Europe, including "the matrices indispensable for the minting of coins which ought to have the design and specifications in the accompanying copy." He further noted that he was also sending by the steamship of the next day "coins that are able to serve as models for the construction of the matrices." García y García was urged to take the greatest interest in the acquisition in order that the tools be sent opportunely to the mint. It was further indicated that the costs would be covered by monies due from a current transaction in Hamburg.

One list described the required punches for letters and numbers to be used with the silver and copper coins, files, powder for cleaning of the dies, an apparatus for the polishing of dies, etc. Another list, dated June 28, described the needed matrices, which included the silver coins (sol, half sol, fifth of a sol, tenth of a sol, twentieth of a sol) and the two copper coins of one and two centavos. The matrices were to conform with the coins being sent as models except that the year and initials were to be left blank. It was noted that the engraving could be perfected as long as the design was not changed. "The diameter of the faces of the matrices of the 'Sol' ought to be of 40 millimeters, that of the 1/2 sol 33 millimeters, that of the 1/5, 26 millimeters, that of the 1/10, 21 millimeters, and that of the 1/20, 18 millimeters. The matrices for the copper coins ought to be engraved and finished according to the

⁵ A.G.N., Legajo 133, June 27, 1884.

⁶ Archivo del Ministerio de Relaciones Exteriores (AMRREE) 5-17-A, Oficios de los Ministerios de RREE, Hacienda, Guerra y Marina a la Legacion del Peru en la Gran Bretana, 1884.

coins which have been sent." The acting director of the mint, J. García Irigoyen, suggested that Joseph Moore of Birmingham would be the best engraver for this work. The final enclosure in the letter of July 9 was a list of the seven coins which had been carried separately by a private individual to London.

It certainly appears that the request was clear: to purchase some tools and the matrices whose dimensions were given. Current coins were sent to provide the needed models, and, incidentally, the dimensions of the coins ultimately to be produced through the use of the matrices.

The problem of the deteriorating dies in Lima was addressed in a Supreme Resolution of July 31.⁷ This resolution required that the contractor use only the best steel for the fabrication of the dies and that at least "until the matrices that have been ordered from Europe arrive," special care should be taken by the engraver in the construction of the dies, repairing where possible the imperfections which might be found. The impressions in the dies were to be made in a "soft" manner, avoiding strong strikes of the press following the procedures prescribed by the engineer.

THE NEGOTIATIONS

On August 19 García y García wrote to Leonard C. Wyon, a member of the famous English family of engravers. Wyon had held the office of Modeller and Engraver to the Royal Mint since 1851.⁸ In this letter, the Peruvian minister said that he had received instructions from his Government "to have certain dies and other works carried out for the Mint." He said that officials at the Royal Mint had indicated that Wyon was the best qualified person to provide an estimate of the costs involved and that he had invited Wyon to come to the legation in order to discuss the request.

Wyon responded on August 21 that he was going out of town and would call on his return. A letter of September 6 from Wyon to García y García contained his estimate for the work. It does not appear to

⁷ A.G.N., Legajo 132, August 5, 1884.

⁸ *Annual Report of the Deputy Master of the Mint [for 1887]* (London, 1888), p. 72.

leave much room for misinterpretation: "In addition to the matrices and punches for the the coins, it will be very desirable that a set of dies should be made, in order that specimen pieces may be struck. I shall then be enabled to submit coins for the approval of Your Excellency, and to ascertain if the dies are likely to produce coins easily."

The estimate was as follows:

1 pair of matrices and 6 punches (3 for each side) for each of the 7 coins	430£
5 complete sets of letters and figures for the coins, 26 letters and 9 figures in each, £7..0..0 per set, also a few extra letters and figures	35£
5 sets of "backward way" letters for the incuse word "Libertad" on the obverses	8£
10 sets of letters and figures for medals, of different sizes and styles £6..0..0 per set	60£
1 gross of engravers' tools (gravers.) assorted with handles	3£
10 lbs. of the finest putty powder	2£ 5s
26 lbs. of the finest washed emery	2£
1 gross of files, assorted	9£
	<hr/>
	549£ 5s

There were also some explanatory notes on the various costs, which omitted that of the apparatus for polishing dies. Wyon proposed that this be obtained directly from Joseph Moore in Birmingham.

In his reply of September 8, García y García indicated the estimate was so much higher than expected that his Government would have to be consulted. In a letter of September 10, Wyon defended his estimate, noting that "I have executed many coinages, but none with devices so elaborate on both sides as that of Peru...." He suggested that some of the requested tools could be deleted so as to reduce costs.

Carlos Southwell, the former engineer of the Lima mint, was appointed on October 27 as the new chief engraver. He reported on November 22 that the work of the reproduction and perfection of the dies for the soles of 1885 was underway. However, he noted that the dies might be defective because the punches for the letters were themselves very defective, having deteriorated greatly from constant use over some 18 years.⁹

⁹ A.G.N., Legajo 133, Nov. 22, 1884.

Early in 1885, the Bank of Callao advanced 1,000 pounds to the Peruvian minister in London in order to purchase new ovens for the mint, with any surplus being applied to the acquisition of new matrices, giving preference to matrices for the fractional coins.¹⁰ This suggests that the matrices for the fractional coins had disappeared. Through this measure and others, the monetary problems were partially resolved. Wyon, in a note dated July 16, 1885,¹¹ indicated that he would call at the legation on the next day. He brought with him a further revised estimate of £451. He lowered the cost of his work by £30, eliminated the 5 sets of "backward way" letters as well as the tools needed for medals, and slightly reduced the cost of the putty powder.

This new estimate was apparently acceptable: a note of July 26 indicated that Wyon would commence the work even though he was beginning his vacation "as a little occupation during my holiday is pleasant to me." Importantly, the letter went on: "I inadvertently left with you my original instructions concerning the coins and stores. Will you be so kind as to return the paper to me at your perfect convenience? It contains among other things the exact size of the coins."

THE IMPLEMENTATION

On August 4, Wyon explicitly acknowledged the receipt of a letter confirming the order from the new Peruvian minister, Don José Rafael de Izcue. Wyon indicated that he would immediately begin work on the wax models and show them in about a month's time to A. Espinosa, a member of the legation's staff. On September 2, Wyon sent a receipt for £150 to Izcue, noting Espinosa had recently "made several valuable suggestions on inspecting my wax models for the silver coins." Wyon made all the suggested alterations and on September 3 wrote to Espinosa suggesting that he again critique the wax models. Apparently Izcue indicated his personal interest and arrangements were made for him to view the models on September 5.

In the archives of the Royal Mint, there is a letter dated September 8, 1885, from Wyon to the Royal Mint asking for dies so that he could

¹⁰ A.G.N., Legajo 134, March 18, 1885.

¹¹ In the archives of the Peruvian legation in London.

begin making the reduction for the five silver Peruvian coins. In October the Bank of Callao wrote to the Peruvian Finance Ministry that if work were to proceed it was necessary to get the tools promised by the government, especially matrices and punches for the letters.¹² A message was received a short time later (October 30) that the needed dies would not be ready until December.

An earlier change in assayers had already resulted in altering the assayers' initials — from **BD** to **RD** — in 1885. Remy resigned as the first assayer on May 1, and on May 8, Don Juan Torrico y Mesa was appointed to that position, leading to the use of the initials **TD** later in the year.¹³ The military success of General Andrés A. Cáceres led to another change in assayers, and on December 20, 1885, José Figueroa was appointed as second assayer.¹⁴ The initials **TF** appear on the first coins of 1886, apparently made on January 7. All of the regular issues of the soles of 1886 bore these initials. Although the contract with the Bank of Callao expired on January 19, minting continued at a relatively low level. The ovens ordered from Europe arrived on February 12, but when it was discovered that the desired matrices were not in the shipment, Pedro A. del Solar, Director of the Casa de Moneda, requested permission to make new dies. Minting with these new dies began on February 15 and, according to existing records, continued through March 6 when it was suspended, probably to allow the installation of the new ovens.¹⁵

It is not clear what happened to the work undertaken by Wyon in the period of September 1885 until February 1886. However, several die-trial coins survive from the Wyon estate.¹⁶ Del Solar did note that the Peruvian minister in London had seen the matrices on October 30.¹⁷ A letter of February 8, 1886, from Wyon to the Royal Mint requested that work be undertaken on dies required for both Colombia and Peru, so that it is possible that this other commission delayed his work.

¹² A.G.N., Legajo 134, Oct. 19, 1885.

¹³ A.G.N., Legajo 134, May 8, 1885.

¹⁴ A.G.N., Legajo 135, Dec. 20, 1885.

¹⁵ A.G.N., Legajo 135, March 6, 1886.

¹⁶ W. B. Christensen, "Pattern Coinage of Peru," *The Coinage of El Perú*, ANS COAC 1988, pp. 186–87.

¹⁷ A.G.N., Legajo 135, April 5, 1886.

THE PROBLEMS

In another letter to the Royal Mint on February 22, Wyon wrote as follows:

I have just received a letter from the Peruvian Legation giving the exact size and weight of the silver coins which I subjoin overleaf. I am requested to inquire the charges of the Royal Mint for each of the proof coins, in order that the number of sets required may be decided on. The exact size of the copper coins is not mentioned, so the coins themselves are our only guides. It seems to me that Mr. Hill will be reluctant to undertake so troublesome a matter as the exact adjustment of weight and alloy. Will you kindly ask him if he agrees with me that it will be desirable to state that these are not considered in *proof* coins which are required only as specimens of the workmanship? The cost of the coins made thus exact would, I suppose, be materially greater than that of ordinary proof coins.

I hope to send you the punches for the copper coins very soon.¹⁸

The specifications to which Wyon referred were those of the governing law of 1863, which required the following diameters: 1 sol, 37 mm; 1/2 sol, 30; 1/5 sol, 23; 1/10 sol, 18; and 1/20 sol, 15.¹⁹

Difficulties with the coins were immediately apparent. Wyon wrote to Espinosa on February 24.

Since writing to you this morning concerning the discrepancy in the measurements of the coins, the real explanation has occurred to me. It is so obvious that I am surprised I did not think of it at once.

The measurement given in the original instructions is that of the *matrices*, the edges of which are much broader than those of the coins. This quite accounts for the difference between the two statements.

¹⁸ Archives of the Royal Mint, Feb. 22, 1886.

¹⁹ See letter to Don Aurelio Garcia y Garcia (above, n.6).

I am unable to mention precisely the cost of a complete set of proof coins, including the copper ones, but it may be sufficient to say that it will be from 15/- to 20/-.

Only a few sets can be made, as the Mint is extremely busy just now.

It is not usual for proof coins to be of the exact standard, as they are specimens of the work, not current coins, so it is proposed to strike them of the English Standard silver which can be most readily obtained. The weight will probably be correct, though this also is considered immaterial for proof coins.²⁰

There is a reference to an earlier letter which unfortunately is not available, especially in view of Espinosa's reply of February 25:

I beg to acknowledge receipt of your two letters of yesterday, which content has been duly reported to His Excl.

He wishes to say that he is very sorry to be unable to meet your wishes referring to the initials on the proof coins.

As to the proof coins it is indispensable that they correspond exactly to the standard & weight mentioned. If any extra work is required it will be all paid by the Government through this Legation. The number of sets wanted by His Excellency is six, if they correspond exactly to the instructions already mentioned.

As it is intended to send some of those sets as patterns and proof that the engravers work is perfect, great care is to be taken, when striking them.²¹

The Deputy Master of the Mint was authorized on February 25 to execute the work on the Peruvian dies.²² Wyon wrote to Espinosa on February 26, "I have just returned from the Mint and am glad to say that consent has been given to make the six sets of proof coins of the right standard."²³

²⁰ Archives of the Royal Mint, Feb. 24, 1886.

²¹ Archives of the Royal Mint, Feb. 25, 1886.

²² Public Record Office, Mint Class 1/48.

²³ Archives of the Royal Mint, Feb. 26, 1886.

There is a subsequent, undated record of the costs of the mint's work: the matrices, punches, and collars cost £67 for the Peruvian coinage. Wyon paid this bill on April 12, part of a total bill of £96 10s which included the cost for work done on dies for Colombia. There is also a record dated March 5, 1886, for 13.81 ounces of silver for nine sets of proofs sent to Wyon. Note the difference in this number and that requested by the Peruvian legation.²⁴

There is one sol proof coin and one obverse die in the collection of the Royal Mint. The diameter of the one sol coin is 37.50 mm and that of the obverse die, 37.25 mm.²⁵ Since the correct diameter was 37.00 mm, there was a distinct problem, which is not really satisfactorily explained by Wyon's letter to Espinosa (above). The original specification was for the face of the matrix for the one sol to be 40 millimeters. The weights of the coins are within the legal tolerances.

On March 16, Wyon wrote to Izcue, requesting an appointment the following Saturday in order to submit proof coins of the "Peruvian coinage just completed." No record is known of the details of that meeting, but on March 31 Wyon again wrote to Izcue: "The whole of the matrices, punches, dies, collars, stores etc. required for the Peruvian Mint are now ready and will be forwarded to your Excellency on Friday or Saturday, as soon as the packing cases are completed....Everything will be packed for Peru except the proof coins and the matrices, which will be sent separately to your Excellency." And on April 2, Wyon wrote that everything was packed and would be sent as soon as a check for the balance owed to him was sent.²⁶

A check for £348 14s was sent to Wyon the same day. Since a deposit had been made of £150, the total amount exceeded the revised estimate of £451.²⁷ A letter of the following day indicated Wyon had been given instructions that the matrices were not to be sent to Peru with the other tools.

²⁴ This information was provided by Mr. G. P. Dyer, Librarian and Curator of the Library of the Royal Mint, from folio 29 of the ledgers of the Die Department.

²⁵ Personal communication from Mr. G. P. Dyer, October 16, 1986. Mr. Dyer noted that "a coin expands slightly when it is released from the collar after striking."

²⁶ Archives of the Royal Mint, April 2, 1886.

²⁷ Archives of the Royal Mint, April 2, 1886.

A final letter in this series was dated April 16:

I forward to your Excellency the matrices of the new coins, packed in zinc, carefully soldered down: also 5 sets of proof coins sewn up in cloth, and 1 set separate.

Overleaf I subjoin a statement of the contents of the boxes.

(Overleaf)

Contents of the Boxes for Lima Mint

No. 1

14 Matrices of the seven coins.

No. 2

42 Punches—3 obverses and 3 reverses of each coin 28 lbs.
Finest Emery.

No. 3

A complete set of proof dies and collars for the seven coins.

5 sets of Letter and Figure Punches.

1 Gross Engravers' tools.

1 Gross Files assorted.

10 lbs. Finest Putty Powder.

4 Iron casts from Models, 2 from each side.²⁸

The annual report of the Royal Mint recorded that 42 matrices, punches, and dies had been made for Peru,²⁹ a number which is at variance with the above record. The matrices, etc., were finally received in Peru on June 21.³⁰

The complete set of proof coins appears on Plate 16, 2–8. On the one sol coin (2) are the date 1886 and the initials R D. This has led to some confusion in the past, for some catalogues (as pointed out by Almanzar)³¹ listed the coin as a regular issue despite the difference in the design (compare 1 and 2), the assayers' initials, and a different diameter.

²⁸ Archives of the Royal Mint, April 16, 1886.

²⁹ *Annual Report* (above, n. 8), p. 43.

³⁰ A.G.N., Legajo 135, June 23, 1886.

³¹ A. F. Almanzar and D. A. Seppa, *The Coins of Peru 1822–1972* (San Antonio, 1972), p. 62, "An 1886 R.D. is reported in other standard reference works, but it is in fact a pattern coin. The design is finer and the shield is round rather than oval."

The other silver proof coins bear the same date, but have no initials. The reason for this is not presently understood. Christensen notes that the uniface die trial of the 1886 fifth sol has the assayer's initials YJ.³² In the proof coin, these initials have been removed, yet on the proof coin for the one sol, the initials were not removed. Neither set of initials was in current use. There is clearly room for speculation.

Another difficulty with the set is seen on comparing the proof one centavo coin (Plate 16, 8) with the regular issue centavo, 9, made in conformity with the law of 1863. In the proof coin, the date is at the bottom of the coin, as is the rule on the silver coins of Peru and the coins of most other countries. In the regular issue, the date is at the top. Wyon apparently produced die trials which had the date at the top.³³ It is difficult to understand why the change was made when on other matters there was such an insistence upon the legalities. Nonetheless, the evidence of the die trials points to the conclusion that the Peruvian representatives, not Wyon, made the change. In the correspondence that is available, there is no mention of this problem prior to the shipment of the coins.

We thus have a flawed proof set—but a beautiful set of coins which ultimately led to changes in the design of coins in circulation. Whatever the original purpose, the set is a pattern set. The problem with the diameter of the coins is most probably due to Wyon, who undoubtedly mislaid or ignored the legal specifications until it was too late to correct the problem. As discussed above, the Peruvian representatives undoubtedly caused the problem with the bronze coins. The responsibility for the flaws must be a shared one.

THE AFTERMATH

It is obvious from the coins of 1886 and 1887 that the new matrices were not used despite the needs. The reason is not difficult to find: the error made by Wyon about the diameter of the matrices. This reason is given repeatedly by mint officials. On January 14 and April 26, 1887,

³² Christensen (above, n. 16), p. 186.

³³ Christensen, p. 187.

the problem was officially pointed out.³⁴ A summary of the situation by the mint's acting director, Garcia Irigoyen, on July 8, 1887, indicated that the matrices that had arrived from England "han resultado inaparentes."³⁵ Another note of December 15, 1887 gave more detailed information:

Repeatedly, and lastly with the date of July 15, it has been noted from this office that the matrices for the different types of national coins that arrived from London were defective, however until today there has happened nothing special. Nevertheless, this office, understanding the urgency of making fractional coins that are about to be solicited, has hastened things by ordering that the engraver preferentially occupy himself in the regulation of the matrices in order to be able to assure you that by the beginning of the next month it is possible to mint fractional coins....³⁶

The peseta or one-fifth sol was the first coin to be made in 1888. The records which survive, however, focus on the one sol coin. At the instigation of the inspector of minting, Don Carlos Ortiz de Zavallos, a meeting was held on February 1 to again discuss the problem. While there was a difficulty with producing the proper milled edge, there was an obvious emphasis on the matrices for the one sol coin.³⁷ The solution required enlarging the collars; this was deemed impossible in Peru, as was it also impossible to prepare entirely new matrices and dies. Ortiz de Zavallos, Garcia Irigoyen, and Don José Agustin Figueroa (the second assayer) jointly concluded that if the banknotes were to be retired, the only alternative was to continue using the English matrices. Later in the year (June 20), another effort was made to stimulate some action by the government. It was pointed out that it would be impossible to make coins of the legal size in 1889 unless new matrices were obtained. Nothing happened, undoubtedly because of the precarious financial state of the country.

³⁴ A.G.N., Legajo 137, Sept. 4, 1888.

³⁵ A.G.N., Legajo 136, July 8, 1887.

³⁶ A.G.N., Legajo 136, Dec. 15, 1887.

³⁷ A.G.N., Legajo 137, Feb. 1, 1888.

One has to have a micrometer in hand to really be aware of the difference in diameter. The issue was one of the legal requirement. The one sol coins made using these matrices were about 0.25 mm larger in diameter than those struck previously. All specimens made in Lima between 1888 and 1892 and which have been measured by the author are at least this much greater in diameter than the measured 37.5 mm of the proof coins. It was not until 1893 that new matrices became available; coins of that year are significantly smaller in diameter than any coins produced previously. It is clear that a special effort was made to observe the specifics of the monetary law.

THE CENTAVOS

By the end of 1900, there was official recognition of the need for the small, one-centavo coins.³⁸ A Supreme Resolution of March 23, 1901, authorized the minting of 600,000 one centavo coins using 300,000 two centavos which were to be melted down.³⁹ However, the matrices used to make the dies of the last centavos coined in the 1870s had disappeared during the Chilian occupation of the mint during the War of the Pacific and the only matrices available were those that had been made in England. Their use would result in coins with a diameter of approximately 19.5 mm instead of the 19 mm dictated by the law of 1863. Thus, the Director of the Mint wrote to the Finance Ministry asking if they should proceed to use the English matrices.⁴⁰

The use of these matrices was authorized by a Supreme Resolution of April 24, and on May 8 the minting of the new centavos began, concluding on June 1.⁴¹ As can be seen, Plate 16, 8, the use of these matrices not only resulted in slightly larger coins, but also coins on which the location of the date was shifted from the top of the coin to the bottom of the coin (cf. Plate 16, 10).

³⁸ A.G.N., Legajo 149, Dec. 18, 1900.

³⁹ A.G.N., Legajo 150, March 26, 1901.

⁴⁰ A.G.N., Legajo 150, April 18, 1901.

⁴¹ A.G.N., Legajo 150, June 1, 1901.

CONCLUSION

The lack of a skilled artisan in Peru led to the decision to have new matrices made in England. Despite explicit instructions, errors were made by Leonard Wyon, the English engraver. The errors were in the diameters of the matrices (approximately 0.5 mm), and also in the design of the one and two centavos coins. Six sets of proof coins were made for the Peruvian government. Though force of circumstances, these matrices were subsequently used to make dies for the regular issues of both the silver and copper coins, thus leading to changes in the Peruvian coins. For these reasons, the set of "proof" coins of 1886 may legitimately be considered pattern coins.⁴²

KEY TO PLATE

1. 1 sol, 1884, B D
2. 1 sol, 1886, pattern
3. 1/2 sol, 1886, pattern
4. 1/5 sol, 1886, pattern
5. 1 dinero, 1886, pattern
6. 1/2 dinero, 1886, pattern
7. 2 centavos, 1886, pattern
8. 1 centavo, 1886, pattern
9. 1 centavo, 1863
10. 1 centavo, 1901

⁴² The author wishes first to acknowledge the assistance of Mr. G. P. Dyer, Librarian and Curator of the Library of the Royal Mint, who generously helped the author on several occasions, and, most importantly, initially set him on the right path in his research. The extraordinary knowledge of Señora Olga de Ramírez of even the uncatalogued portions of the archives of the Peruvian foreign ministry led to the discovery of important documentation used in the article. To both, the author extends his thanks for help on this article as well as in other matters.

BOOK REVIEWS

ANCIENT

PHILIP V. HILL. *The Monuments of Ancient Rome as Coin Types*. London: B. A. Seaby, Ltd., 1989. 145 pp., 203 figs., 2 maps. ISBN 1-85264-021-9. \$38.00.

Few people have spent as much time as has Dr. Philip Hill studying the representations of ancient monuments on Roman coins. His many papers on the subject constitute a major contribution to the specialized field of *architectura numismatica* as well as more generally to the study of Roman numismatics and archaeology. Since those articles are dispersed among a variety of scholarly journals and congress proceedings published over many years, it is especially valuable to have his thoughts collected in a single volume. This new book, then, is very welcome indeed—all the more so since it has been handsomely published at a reasonable price by B. A. Seaby, rather than by a university press, and it will consequently reach a wide audience of scholars and non-specialists alike. In fact, the book seems to have been intended primarily for the latter. It appears in a series with such other handbooks as *Emperors of Rome and Byzantium* and *Identifying Roman Coins* and contains a four page glossary with definitions such as “Reverse: the ‘tails’ side of a coin.”

As a handbook for collectors and students, Hill’s new book is, for the most part, a success. The text is well written and clearly organized. Each chapter is devoted to a different kind of monument—temples, civic buildings, arches, altars, etc.—and is richly illustrated with coins uniformly reproduced at a scale of 1.5:1 for easy legibility. The descriptions are concise and informative, with an antiquarian emphasis on the history of the monuments themselves. The text is complemented by topographical maps of Rome and useful lists of coins and buildings in appendices at the end of the volume.

Certain aspects of the book, however, invite the reviewer to judge it by a higher standard. Reference is frequently made to controversies and scholars' names regularly appear in the text (which is accompanied by 225 end notes). There are occasional extended discussions of particularly vexing questions; four pages and 17 notes, e.g., are devoted to the Temple of Jupiter Victor. Hill also occasionally advances here for the first time new interpretations of some monuments, e.g. his (unconvincing) argument that the Parthian arch of Augustus on the coins struck by L. Vinicius is instead one commemorating the emperor's program of road repairs, perhaps the arch erected on the Milvian Bridge. (The hypothesis is apparently put forward without knowledge of the recent treatises on the subject by Coarelli and De Maria or of the new excavations by Nedergaard in the Forum Romanum at the site of the Parthian arch; see *JRA* 2 [1989], pp. 198-200, for a review of the latest literature.)

Bibliographical omissions are, in fact, a major problem. Citations in the two-page bibliography and in the end notes are so selective as to be misleading. The non-scholar who uses this volume as a starting point for an inquiry into the subject will learn, e.g. that Harold Mattingly frequently expressed an opinion on architectural types on Roman coins in *BMCRE* and that in 1859 T. L. Donaldson published a book entitled *Architectura numismatica*, but that reader will get little hint of the vast bibliography that awaits him. In no context will he encounter, e.g. the names of M. J. Price and B. L. Trell (*Coins and Their Cities. Architecture on the Ancient Coins of Greece, Rome, and Palestine* [London and Detroit, 1977]) or of G. Fuchs (*Architekturdarstellungen auf römischen Münzen der Republik und frühen Kaiserzeit*, *AMuGS* 1 [Berlin, 1969]) or of H. Kùthmann and B. Overbeck (*Bauten Roms auf Münzen und Medaillen* [Munich, 1973])—to cite just a few of the most notable books; the list of articles would go on for pages. The work of archaeologists, as distinct from numismatists, is also generally overlooked. For example, in the chapter on triumphal arches H. Kähler ("Triumphbogen [Ehrenbogen]," in *RE* VII, A, 1, 1939, cols. 373-493) and S. De Maria (*Gli archi onorari di Roma e dell'Italia romana* [Rome, 1988]) are never mentioned, nor does H. von Roques de Maumont's name (*Antike Reiterstandbilder* [Berlin, 1958]) appear in the discussion of equestrian statues on coins. One will also look in vain for any reference to F. Coarelli, who over the years has probably commented somewhere in

print on every monument ever set up in Rome (e.g., *Roma*, Guide archeologiche Laterza 6 [Bari, 1980]). I do not mean to imply that Hill is not familiar with the writings of these scholars, but he apparently did not feel that citing them was appropriate in a book of this nature. This is regrettable, more so perhaps for the non-specialist, Hill's primary audience, than for the archaeologist or numismatist actively engaged in research on Roman monuments.

I was also disappointed by the brevity (two pages) of the author's introduction to the rewards and pitfalls of the study of *architectura numismatica*. To be sure, mention is made of some of the abbreviations and distortions to be expected in small-scale renditions on coins of monumental structures, e.g. the reduction of the number of columns on a temple's facade or the widening of the central intercolumniation to allow a view of the cult statuary within. Hill also duly warns the non-initiate, albeit only in passing, that not all the types discussed are truly reproductions, however faulty, of standing monuments. Some reverse types are rather merely "blueprints" for buildings not yet completed or, in some cases, not yet begun. This phenomenon of "projected architecture" has been discussed especially by F. Prayon ("Projektierte Bauten auf römischen Münzen," *Praestant interna. Festschrift für Ulrich Hausmann* [Tübingen, 1982], pp. 319–30—also not cited). "Blueprint" is, in my opinion, an unfortunate choice of terminology, because it suggests precise knowledge of what a building would look like when finished. Not only can one debate whether mint officials and die engravers could have had such information at their disposal, but some architectural types on Roman coins probably do not correspond to any actual structure, completed or projected, and were never intended to do so. Rather they served simply as generic types, pictorial equivalents of the generic legends that appear over and over again on Roman coins. Under Claudius, e.g., the message **VICTORIA AVGVSTI** is expressed pictorially by a schematic triumphal arch labeled **DE GERM** at the time of the emperor's Germanic campaign and **DE BRITANN** after his success in Britain. The Claudian reverses represent neither existing arches nor "blueprints" for "projected" arches; they merely utilize the imagery of triumphal architecture to celebrate the emperor's achievements on the battlefield. (See, most recently, H.-M. von Kaenel, *Münzprägung und Münzbildnis des Claudius*, AMuGS 9 [Berlin, 1986], pp. 236–39.)

There are some cases, however, where we possess not only a numismatic representation but also the building itself or at least substantial remains of the original structure. These instances are ideal "controls" for the analysis of other numismatic renditions of buildings that do not survive. A prominent example is the Colosseum and the dust jacket of Hill's book features both a view of the building and the reverse of a sestertius of Titus; a similar juxtaposition of illustrations appears on p. 41. The comparison is not, however, exploited, as I think it should have been. Hill does not point out that although the amphitheater is shown in "bird's-eye perspective" in order to inform us about the interior as well as the exterior of the structure, the die cutter has neglected to distinguish the Tuscan, Ionic, and Corinthian orders employed on the facade. He has, however, included the statuary in the great arches of the lower three stories and the shields on the wall of the fourth story, details of which we would be ignorant if not for the coins. Similarly, although the coins reproducing the Arch of Septimius Severus in the Forum Romanum leave us puzzled as to the character of the relief sculpture on the monument, the numismatic representations are our only source for the appearance of the elaborate statuary group on the attic. Architectural statuary, it seems, caught the attention of coin designers throughout the Roman period and is generally reproduced at greatly exaggerated scale, while details about the supports for the statues, i.e. the buildings themselves, were frequently omitted or glossed over. In all, there are some three dozen juxtapositions of coins and corresponding monuments in Hill's new book, but a rigorous detailed analysis of those comparisons is lacking. This is a case, I believe, of an opportunity lost.

In sum, *The Monuments of Ancient Rome as Coin Types* is an exceedingly useful handbook that is sure to please the non-specialist seeking basic data on the buildings depicted on the Roman coinage. If, however, the same reader should wish to pursue a question further, Hill's book will not serve as a guide to the pertinent literature. Despite the presence of bibliographical notes and references in the text to problems of interpretation, this volume is by no means the authoritative scholarly treatise that Hill could have produced and that I, as one who has learned much from the author's many papers on architectural types, had hoped for.

FRED S. KLEINER
Boston University

Michael Alram. *Moneta Imperii Romani* 27. *Die Münzprägung des Kaisers Maximinus I. Thrax (235/238)*. Denkschriften der Österreichischen Akademie der Wissenschaften Philosophisch-historische Klasse 203 = Veröffentlichungen der Numismatischen Kommission 24. Vienna, 1989. 103 pp., 35 pls. ISBN 3-7001-1564-4.

The coinage of Maximinus I, the Thracian rumored to have been eight feet tall and to have had a prodigious appetite for wine, forms the focus of fascicule 27 of the Wiener Schule's *Moneta Imperii Romani*, the most successful of them to date. The reviewer has discussed the conceptual difficulties in the series in another context (*JRA* 1 [1988], pp. 170-75), and these remain troubling. But here—only partly owing to the less ambitious scope of the volume—many of the flaws (particularly blind references backward) have been corrected.

The Corpus. The coinage of Maximinus is relatively free of ghost coins, but Alram has been able to clarify the record a little further, and some of the coins doubted already by Mattingly may now be dismissed:

<i>MIR</i> 8-1 = <i>RIC</i> 1	Aureus, VOTIS DECENNALIBVS
<i>MIR</i> 10-4 = <i>RIC</i> 12	Æ quinarius, FIDES MILITVM
<i>MIR</i> 11-1 = <i>RIC</i> 13	Aureus, PROVIDENTIA AVG
<i>MIR</i> 12-4 = <i>RIC</i> 14	Æ quinarius, SALVS AVGVSTI
<i>MIR</i> 18-3 = <i>BMC</i> 112	Denarius, VICTORIA GERMANICA
<i>MIR</i> 19-7 = <i>RIC</i> 73	As, VICTORIA GERMANICA S-C
<i>MIR</i> 27-1 = <i>RIC</i> 23	Aureus, VICTORIA GERM

Diva Paulina:

<i>MIR</i> 38a-1 = <i>RIC</i> 2, <i>BMCRE</i> 126	Aureus, CONSECRATIO
--	---------------------

In addition *RIC* 25 and 26, a dupondius and an as of 235, which Mattingly cited as requiring confirmation, still need it; thus only a sestertius was certainly struck in base metal so early. *RIC* 34, a suspicious "M.B." reported long ago without illustration, has not been seen and is rightly doubted. *RIC* 74, a plausible enough dupondius, was evidently seen by Mattingly in Vienna but is no longer to be found. The supposed aureus of Diva Paulina is dismissed, following Carson; but the aureus of Maximus *MIR* 37-1 = *RIC* 5 = *BMCRE* 210 = *Jameson*

226, passed without comment by Carson and assigned to 236/7, is questioned at p. 83, n. 16, perhaps on insufficient grounds: the weight is good, a findspot is reported, and the piercing of the coin argues for antiquity. On the other hand, this coin apart, there is no known gold after 236.

The result is a generally neater pattern for Maximinus's issues. These generally consist of six substantive types, and Alram has used the pages facing the catalogue to tabulate the number of specimens known to him. On the whole the counts of specimens confirm his structure.

Chronology. The chronology of the coinage is fairly straightforward and is summarized in diagrammatic fashion on p. 37. Alram divides the first part of the coinage (that without **GERMANICVS**) into three issues. The first consists of the accession types and should begin with the proclamation of Maximinus in March 235; the second of a standard repertory accompanied by **PMTRPPP**, here supposed to fill out the remainder of 235; the third of the same repertory but with **PMTRPIIPP** (i.e. 236). The last of these is subdivided into two parts on the basis of portraiture: the later consists of the triumphal portrait only (see below). The fourth issue incorporates the title **GERMANICVS**, and must occupy the last months of 236; the fifth and sixth issues are defined by progressive advances in the tribunician iteration. There is coinage in Maximinus's name as late as 238, but the Gordiani were proclaimed in March and in fact the mint of Rome was in the control of the Senate from early in the year.

The Portraits. The salient feature of Maximinus's coinage has always been the dichotomy in its portraiture. Some coins actually communicate the gigantic frame of the emperor: these, which Delbrueck regarded as caricatures, belong to the later period of the reign. They were preceded, as often when the emperor was raised away from Rome, by a group that owes much to the image of his predecessor Severus Alexander. Pink, followed in outline but not in detail by Delbrueck, saw the chronological implications, but the most serious exploitation of the portraits for arrangement of the coinage was Carson's in *BMCRE* 6. He rightly criticized Delbrueck's designation of the Alexandroid portrait as "Feldporträt"—an evident inversion of historical fact. Alram has used this term to designate a realistic but not exaggerated portrait of Maximinus, which will cause confusion only to those who have read his work alongside Delbrueck's without attention.

Aram goes a step further than Carson in distinguishing two early portraits: a “consular” one (his A), which is the earliest of the reign and can sometimes be mistaken for Severus Alexander; and a “triumphal” one (his B), which softens the outlines of Maximinus’s physiognomy but includes the characteristic hooked nose. This feature can also be observed in the coinage of Maximus and Paulina. This last emerges only in the dated issues of 236; the coins of Maximus and Paulina are thus provided with a terminus post quem. Interestingly, however, their coinage (which might have been supposed to have represented the output of separate officinae) does not break down very neatly by type.

The issues are not all discrete. Even the earliest one, on Aram’s chronology, has both the Feldporträt and the Consularporträt, and it is somewhat surprising to find, in Aram’s survey of specimens, that instances of the Feldporträt outnumber those of the Consularporträt. Die links (e.g. 9–6A with 9–7B and 10–6B, pl. 3), however, seem to confirm their simultaneous production. They are both eventually supplanted by the triumphal portrait, so that it is impossible to refine the chronology of any of Maximinus’s later types except those which bear dates. There is, in fact, only historical probability in favor of the assertion that coinage was continuous until the end of the reign.

The Provinces. Aram has begun an approach to the provincial mints, and it is a matter for great regret that the format of the series does not accommodate fuller consideration of the provincial coinages. A by no means exhaustive canvass by the reviewer shows that over 100 provincial mints struck coins for Maximinus, Paulina, or Maximus; 37 of these, plus Alexandria, are considered here. Some of the obverses seem to draw on no model at all, e.g. pls. 30, 14 (Amisus), 31, 47 (Olbasa) or 32, 51 (Casae). There is hardly a clear example of the triumphal portrait, and the Feldporträt and Consularporträt tend to merge (p. 55). If these results can be substantiated by a larger body of evidence, one could say that a) if *imagines* were distributed from Rome, they did not include the Triumphalporträt; and b) there is no evidence for the use of coins themselves as engravers’ models in the provinces. These are large questions on which the evidence of relatively short reigns bears heavily. It is perhaps significant that Maximinus himself never visited Rome as emperor, though the implications of this are unclear. The portraits are clearly the stuff of future study.

The material has been gathered and presented in orderly fashion and, one might say, with more sympathy for the non-numismatic evidence than one has come to expect from the *MIR* series. It is refreshing to see a treatment of the coinage which absorbs so much of the art historical literature—some of it new since Carson's discussion in 1962—and, on a substantive level, to see the evidence convincingly arrayed in favor of a six-officina system for the reign of Maximinus. This volume can now stand as the definitive treatment of Maximinus's coinage.

WILLIAM E. METCALF

American Numismatic Society

Georges Depeyrot. *Le Bas-Empire Romain. Économie et Numismatique (284–491)*. Paris: Éditions Errance (Collection des Hespérides), 1987. 139 pp., illus.

In a brief introduction, Depeyrot surveys twentieth-century scholarship on the coinage of the later Roman Empire. It has progressed beyond essentially typological studies: new concerns include bronze coinage, the relationship of hoard deposits with the Germanic invasions, third-century monetary policy, the stratigraphic context of coins in archaeological finds, and thus the evolving patterns of local circulation, series of issues, alloys, and volume of coinage. In the body of the book Depeyrot attempts to survey what is known about later Roman numismatics. He divides his subject into eight areas.

“Le Bas-Empire: crises et continuité” (pp. 7–9) defines his period. Diocletian began a new world, numismatically as well as politically, that endured in the West until Romulus Augustulus was deposed in 476, and in the East until Anastasius took the throne in 491.

“L'Évolution économique” (pp. 10–33) integrates archaeological and literary evidence. Depeyrot traces changes from the urban culture of the high empire to the decentralized rural villa culture of the later empire. This shift was most marked in the West; it is worth remarking that although Depeyrot defines his subject so as to include both the western and eastern parts of the empire, he concentrates on the West.

In “La Monnaie au Bas-Empire” (pp. 34–54) Depeyrot first explains how the late empire's system of regional mints evolved and sketches the physical process of striking coins. Then he explains the separate and

related purposes of coinage in gold, silver, and bronze. Finally he considers the role of imitations and medallions, and estimates volumes of production.

“La Propagande sur les monnaies” (pp. 55–84) surveys the later Roman government’s exploitation of coinage to deliver political messages to various sections of the populace. The discussion of legends is brief, since they could be read by only a few. Depeyrot devotes more attention to iconographic themes. There are discussions of Vota coinage in the names of empresses and how the proportional volume of issues for a particular emperor at a particular mint might relate to propagandistic aims. This chapter is especially rich in illustrations.

“Les Émissions barbares” (pp. 85–94) concerns issues by the “barbarian” peoples in Gaul, of coins modeled on Roman varieties but bearing distinctive issuers’ marks. Visigothic, Burgundian, Suevian, and Frankish issues are discussed and, more briefly, imitations from outside the empire and European issues modeled on those of eastern Augusti. Depeyrot also describes issues of a Roman emergency mint in Gaul, which are to be distinguished from the barbarian coinages.

In “Les Émissions monétaires” (pp. 95–112) Depeyrot traces the history of monetary reform in the later Roman Empire. He begins with the nadir of Roman coinage under Gallienus and Claudius II, then details the reforms made by Aurelian. The vicious cycle of inflation soon reasserted itself. Depeyrot next reviews the successive reforms of tariff, weight and fineness carried out by Diocletian and by many of his successors including some usurpers; after Theodosius I, the West and the East diverge.

“La Banalisation de l’or dans l’économie” (pp. 113–24) shows how during the course of the fourth century gold became the standard medium of exchange. Depeyrot argues that this change was supported by the exploitation of fresh supplies of ore between ca. 345 and the 390s, with the greatest influx having come between 375 and 393. He also discusses how emperors tried to combat imbalances between the metallic and the face values of gold coinage. Observations about imperial taxation round out the chapter.

Finally, in “L’Évolution économique et monétaire du Bas-Empire” (pp. 125–28) Depeyrot recapitulates and synthesizes conclusions from previous chapters and explores the relationship between economic

changes and the evolving monetary systems of the later empire. Climatic change and the breakdown of urban organization stimulated the development of a new social and economic unit, the self-sufficient farming villa. Once a steady supply of gold became available, the state was able to achieve fiscal stability by basing its monetary system on gold, ratios of value between different metals having proved impossible to fix. Bronze coinage ceased in the West as commerce declined, though commerce continued to support monetary diversity in the East. Gold continued to form the basis of later barbarian coinages. Reliance upon gold, however, forced small taxpayers to ally themselves with larger economic units that could make gold payments. They became tied to specific territory in dependence on larger proprietors. The development of medieval feudalism began.

Appended to the main presentation are a chronological table (pp. 129–32), an exiguous bibliography (pp. 133–4; the reader is referred elsewhere for more comprehensive listings), and indices (pp. 136–39). Copious illustrations ornament the book throughout. There are maps, plans, charts, a drawing of a fragment of Diocletian's Edict of Maximum Prices (p. 101), and especially photographs of coins and related objects. The photographs are generally excellent and well reproduced; but note reversed images at pp. 57, 77 (also interchanged captions), 92 (three of four images!), and 97.

Depeyrot's summary is masterful and concise. A reader already familiar with the political, military, and numismatic history of the later empire will find it a convenient, helpful survey, the more valuable in that it spans several volumes of more detailed reference works such as *RIC*. Moreover, the coverage extends beyond *RIC* and incorporates recent information, thereby providing a coherent overview of a larger period which has recently attracted increased scholarly attention. Finally, it benefits in breadth and depth from Depeyrot's social perspective and use of archaeological material.

Nevertheless, one who is not expert in the period will sometimes be puzzled by the way information is presented. To begin with minor matters: it would be helpful, for example, if Depeyrot gave dates for Gallienus and Claudius II when he discusses the state of Roman coinage during their reigns (253–68, 268–70: pp. 95–96). His history of "Les Émissions monétaires" thus begins without a clear chronological

context. The caption of a photograph in the margin of p. 96 dates Aurelian's reign (270–75), but one looks in vain for a date for the reform under discussion. Clarity of argument is not lost, but the salient details are missing. (Dates for subsequent emperors and monetary reforms are given both in "Chronologie," pp. 129–32, and in the text of the chapter.)

Prior numismatic knowledge is required, too, at the penalty of mild but unnecessary perplexity. For example, at p. 68 Depeyrot explains the iconographic ancestry of the divinizing imagery in "la buste barbare dit 'à la couronnelle' de Valentinien III." This exotic-sounding image is not illustrated nearby, nor is any indication given that it will be identified and discussed in the next chapter (p. 89, with illustration on p. 90; these pages contain no back-reference). If the reader does not already know the issue to which Depeyrot refers, the value of his observations is obscured.

More serious obscurity sometimes arises from Depeyrot's citation of ancient literary and documentary sources. He incorporates quotations in a disjunctive fashion that challenges the reader accustomed to more integrated exposition. Following some paragraphs of his text, a horizontal line divides the page from edge to edge. A brief paragraph identifies and gives the context for each quotation. The translated passage follows. Another horizontal rule divides the page, and the reader is returned to the main text. This method avoids pedantic transitions and explanations. At its best in later chapters, when it has become more familiar and when the connections between main text and interposed material are apparent, it varies the book's tone and enlivens its pace.

Yet at the first appearance of this device (pp. 8–9) the text and quotations fit together obliquely. First Depeyrot declares that Julian, A.D. 360–63, typified the contradictions of the period. He was raised as a Christian but he became a zealous pagan. He stripped the defenses of the western empire so that he might lead an ill-conceived expedition against Persia, seeking to repeat the conquests of the second-century emperor Trajan. In financial matters he both realistically remitted taxes and nostalgically attempted to reinvent a monetary system. Then a horizontal rule is followed by this comment:

Les "intellectuels" étaient eux-mêmes conscients des nombreuses mutations de cette période. La "vision" de Valens, en 378, peu avant sa mort, est un bon témoignage de cette lucidité (extrait de Zosime, *Histoire nouvelle* IV, 21, éd. F. Paschoud, Paris, 1979).

The quotation describes the apparition of a badly beaten man to Valens's army as it marched from Constantinople into Thrace, soon to be butchered by Goths at the great battle of Adrianople. The prodigy refused to speak, then suddenly vanished. Interpreters declared that it represented the condition of the empire, which would continue to suffer until the corruption of its leaders utterly destroyed it. In a concluding sentence which Depeyrot omits, Zosimus announces that his subsequent narrative will show "that the prophecy spoke the truth." Thus he makes the apparition foreshadow the disaster at Adrianople, when Valens attacked prematurely on the bad advice of subordinates who, Zosimus says, were jealous of another general's success. The Roman army was so badly depleted by the battle that later emperors were forced to recruit barbarians on an unprecedented scale, in turn creating problems of accommodation that changed the course of subsequent Roman history. But these changes do not relate to the contradictions embraced by Julian, nor does the passage manifest intellectual awareness of change, except by Zosimus's authorial hindsight. Even in this context, it retains its primary significance, vaguely, direly, and conventionally warning about official corruption; the phenomenon is one of which contemporary historians complained continually.

A second quotation (p. 9) illustrates the fact that Christian writers thought that the barbarian invasions of the later fourth and fifth centuries presaged the end of the world. A second horizontal rule divides the page. Without transition Depeyrot remarks that western Romans felt cut off from the continuity of Roman history that survived in the East, but that nevertheless they transmitted Roman institutions to a posterity that claimed descent from the Roman Empire. All the observations juxtaposed on these two pages in different ways characterize Depeyrot's period as one of transition. It is left to the reader to integrate them. To do so, he must know that Zosimus's story presages the battle of Adrianople; otherwise it is reduced to a fantastic allegory

of corruption and doom which fails to illustrate the real changes in the Roman Empire which Depeyrot otherwise seems to wish to underline.

Such an omission probably reflects only the desire to avoid tiresome explanation and an optimistic assumption about the reader's familiarity with Zosimus. Depeyrot more seriously distorts the significance of a quotation when he neglects to point out that Claudius Mamertinus's "Discours de remerciement à Julien, 1^{er} juin 362" [*sic*, p. 22] belongs to the ancient literary genre of panegyric, in which the speaker is bound to glorify his subject's achievements as much as possible. Thus it is to be expected that in the passage quoted Mamertinus exaggerates the misery of the Gauls before Julian was sent to protect them, just as in the sentence following Depeyrot's quotation Mamertinus exaggerates Julian's salutary accomplishments ("with one battle all of Germany was destroyed," *Pan. Lat.* 3[11].4.3). The text does not simply attest desolation, as Depeyrot implies. (Small points: the passage refers to the state of the Gauls before Julian's arrival, not "sous Julien"; the panegyric was spoken when Mamertinus, not Julian, assumed the consulship, on 1 January 362, not 1 June.)

At least these passage are identified so they can be consulted at greater length: matters are more difficult when quotations are identified only by work, as at pp. 19, 24, 63, 68, 70, 115, 116, 118, and 123. Depeyrot addresses a scholarly audience in his introduction and assumes throughout a high degree of scholarly interest; so his failure to append references to his sources, both of data and of arguments, is most unfortunate. For example, he discusses in some detail the financial records of the late fifth-century African couple Processanus and Siddina, but does not identify a publication of the relevant documents. (Processanus and Siddina are not listed in *PLRE*, Pauly-Wissowa, or—although it is asserted that the wooden tablets containing the records were found "au début du siècle"—in any of the indices of *L'Année épigraphique*.)

Sometimes Depeyrot fails to notify the reader that a controversy exists, and in one instance compounds this problem with a translation that tacitly interprets the content of an ancient passage. At p. 56 he raises the question of whether Roman citizens could read the titulature in the obverse legends, and juxtaposes a quotation from Julian's *Misopogon*, 355D = VII, 27, ed. Ch. Lacombrade (Paris, 1964).

Depeyrot follows Lacombrade in rendering “ce sont vos princes eux-mêmes que vous brocardez, riant des poils de leur menton ou *des titres gravés sur leurs monnaies*.” The Greek, however, reads *ta en tois nomismasi charagmata*. *Charagma* etymologically can refer to anything engraved or written, thus to either types or legends; but as J. Szidat points out (“Zur Wirkung und Aufnahme des Münzpropaganda (Iul. Misop. 355d),” *Mus. Helv.* 38 (1981), p. 23, n. 7), when used of coins *charagma* always refers to types. Indeed other ancient sources (Ephraim Syr., *Hymn. contr. Iul.* 16–19; Socrates, *HE* 3.17; Soz. *HE* 5.19; Cassiod. *Hist.* 6.40.2–4, quoted by Szidat, pp. 32–33) state explicitly that the Antiochenes ridiculed the image of the bull on the reverse of Julian’s new large bronze.

Depeyrot does not acknowledge these objections, but instead asserts, “Ammien Marcellin nous a donné des précisions sur les moqueries qui portèrent sur les titres de la titulature de Julien” (p. 56). At 23.1.5 Ammianus reports that the populace interpreted the deaths of Julian’s *comes sacrum largitionum* Felix, and then of his uncle Julian, as portending Julian’s own death: they recited Julian’s titles in the significant order Felix, Julianus, Augustus. For proper oracular force this formula ought to have been a conventional one, in which the crowd now found new significance. But Julian’s coins entitle him FLAVIUS CLAUDIUS IVLIANVS Pius Felix AVGustus (on some coins prefixed Dominus Noster), or FLAVIUS CLAUDIUS IVLIANVS PerPetuus AVGustus, without Felix. The coins do not provide the right formula; the crowd must have used a different source, and Ammianus’s anecdote does not refer to the coins at all. Neither passage cited in fact correlates the subjects of mass literacy and coin legends, as he implies. The relationship is a fascinating question, however; evidence suggests that even though many people derived meaning on coinage principally from the types, considerable numbers were aware of what the legends said (see now W. V. Harris, *Ancient Literacy* [Cambridge, Mass., 1989], p. 213 *et passim*).

The metallurgical analyses of C. Morrisson et al., *L’Or monnayé*, Cahiers E. Babelon 2 (Paris, 1985) are properly cited. Depeyrot’s interpretation of the available figures regarding the platinum content of fourth and fifth-century gold is plausible, but with a sample as small as two coins from a single mint (Constantinople) over a period of eighteen years (375–93) the data are simply too sparse to carry final conviction.

In sum, the greatest weakness of the book is that Depeyrot is sometimes too casual in his use of references and of ancient texts; archaeological, social, and technical material is more soundly incorporated. It is a pity that Depeyrot did not provide more scholarly guidance to readers who are less than expert, for the book is an important one, providing a comprehensive overview of the numismatics of a fascinating period.

JACQUELINE LONG

The University of Texas at Austin

John Casey and Richard Reece, eds. *Coins and the Archaeologist*. London: B. A. Seaby, Ltd., 1988. 306 pp., 8 pls. ISBN 1-85264-011-1. £17.50.

This is a republication, with revisions and addenda, of a volume of papers presented at a 1973 conference at the University of London on archaeological numismatics. Initially published in 1974 (as British Archaeological Reports 4), the papers are now made more accessible and in three cases have been extensively rewritten; one of the 14 papers is new. As is the case in most conference proceedings, the contributions are united less by a common purpose than by a common theme, which is the interpretation of coins in archaeological and hoard contexts of Roman and medieval Britain.

Several of the shorter papers are by archaeologists who have come to coins via their work in the field. In the one pre-Roman paper (pp. 1-12) John Hollis proposes to identify different monetary functions for different types of early British coins on the basis of find distribution. His second paper (pp. 189-200) deals on a theoretical level with the fundamental question raised when any coin is used as dating evidence: how to estimate the time lag between time of issue and time of loss or deposition. This concern understandably resurfaces in one form or another in several other papers and, in a study entitled "Numerical Aspects of Roman Coin Hoards in Britain" (pp. 86-101), Richard Reece develops a few useful principles, showing, for example, that coins of a given emperor reach peak circulation "after that emperor's death—perhaps some twenty or thirty years later," and that worn sestertii of Hadrian are more likely to be lost in the mid-third century than earlier.

Commenting on a more drastic kind of time lag (pp. 224–29), Michael D. King explains that the discovery of old third- and fourth-century Roman coins in fifth- and sixth-century Anglo-Saxon graves and settlements is the result not of the coins, continued re-use as money, but of the fact that they were prized ornaments for personal adornment (many were pierced or cut for mounting). Readers who must grapple with the masses of coins recovered at urban sites will probably find John Casey's essay on "The Interpretation of Romano-British Site Finds" (pp. 39–56) one of the more illuminating contributions. Here Casey plots coins' frequency of loss from Claudius to Theodosius II, reviews the historical and monetary factors responsible for fluctuations in quantity of excavated coins from the reign of one emperor to the next, and discusses to what extent coin loss may be indicative of coinage in circulation.

In general, the papers contributed by more traditional, "academic" numismatists tend to be longer. These include substantial articles on medieval coinage by D. M. Metcalf ("Monetary Expansion and Recession, Interpreting the Distribution Patterns of Seventh and Eighth-Century Coins," pp. 230–53) and Marion M. Archibald ("English Medieval Coins as Dating Evidence," pp. 264–301) and two further papers on hoards. Anne S. Robertson's magisterial survey "Romano-British Coin Hoards: Their Numismatic, Archaeological, and Historical Significance" (pp. 13–38) is one of the most comprehensive and lucid accounts of hoards and hoarding this reviewer has encountered in any publication. It is nicely complemented by J. P. C. Kent's cautionary essay, "Interpreting Coin-Finds" (pp. 201–17), which emphasizes the diversity of hoards and how hoards may defy or confound simplistic analysis. The real *tour de force*, however, is George C. Boon's "Counterfeit Coins in Roman Britain" (pp. 102–88), an exhaustive treatment of Roman counterfeiting that takes up one-fifth of the entire volume and all eight plates. Starting with counterfeiting techniques, the money supply, the role of money changers, and other background considerations, Boon proceeds to detail several "epidemics" of counterfeiting that broke out when fiscal circumstances created a shortage of coin.

The ultimate subject of most of these papers, then, is coin circulation and coin use—in Roman and later Britain to be sure, although from a

methodological and most historical points of view there is little here that does not have instructive implications for the analysis of hoards and site finds from other places and times in the ancient world. If archaeological numismatics has been traditionally identified with the routine and often tedious identification and recording of coins, one value of these collected papers is to show much more productive and sophisticated the subject can and ought to be.

JOHN H. KROLL

The University of Texas at Austin

MEDIEVAL

Françoise Dumas-Dubourg. *Le Monnayage des ducs de Bourgogne*. Publications d'histoire de l'art et d'archéologie de l'Université catholique de Louvain 53 = Numismatica Lovaniensia 8. Louvain-la-Neuve, 1988. xviii, 419 pp., 30 pls., 4 maps.

This work is a study of the coinage issued by the Capetian and Valois dukes in the territories of Burgundy proper from the eleventh century to the end of the ducal line in 1477. The history of the feudal coinage of Burgundy presents a particular fascination. Burgundy was heir to both the glorious traditions of the fifth century kingdom of the Burgundians immortalized by the *Nibelungenlied* and the vacillations of the Carolingian middle kingdom of Lothair. In 1032, King Henry of France (1032–60) bestowed the Duchy of Burgundy in appanage on his brother, Robert (1032–76), from whom were descended the Capetian dukes who ruled Burgundy until 1361. Shortly after the death of the last of the Capetian ducal line, John the Good, king of France (1350–64), bestowed the Duchy of Burgundy in appanage on his fourth son, Philip the Bold (1364–1404), who established the Valois line, known as the Great Dukes of Burgundy, which lasted until 1477.

The author has included in her study both the moneys minted by the dukes as dukes of Burgundy and/or as counts of Burgundy, Auxonne, and Chalon, and the coins issued on behalf of the kings of France in mints under ducal control. Some consideration is also given to questions related to minting rights, organization, and personnel, as well

as to monetary circulation both within and without the Burgundian territories. The author also discusses such problems as the recruitment of workers (p. 131), sources of metal (p. 172), and monetary shortages (p. 190). This work is an important contribution to a much neglected area of study and supersedes previous work on this subject.

Medieval coins, and especially feudal coins, have always been the stepchildren of the numismatic world. The basic survey of French feudal coins is still Faustin Poey d'Avant's work, *Les Monnaies féodales de la France*, 3 vols. (Paris, 1858–62), a catalogue illustrated by line drawings, whose inadequacies were all too apparent when it first appeared. Feudal mints had proliferated in the territory of France under the late Carolingian and early Capetian rulers. In the twelfth century, there may have been as many as two hundred mints striking coins in the territory of modern France. In the thirteenth and fourteenth centuries, the French monarchs were able to create a royal monopoly on the coinage of precious metals within their realm, and the feudal mints were restricted to issuing the black money for the local markets.

Until now, the most comprehensive treatment of the coinage of Burgundy was Anatole de Barthélémy, *Essai sur les monnaies des ducs de Bourgogne*, Mémoires de la Commission des antiquités du département de la Côte-d'Or, 1^{re} livraison, t. 3 (1848–49). In view of the importance of Burgundy and in light of the deplorable state of the literature on Burgundian coinage, Mme. Dumas-Dubourg's study of the coinage of Burgundy is a very welcome addition. The author is eminently qualified for her task of bringing de Barthélémy's work up to date. Her study expands upon her thesis, presented in 1957 at the École des Chartes, which dealt with the coinage of the Valois Dukes. During the succeeding years, she has served as conservator at the Cabinet des Médailles of the Bibliothèque Nationale in Paris. The author is thus thoroughly familiar with the numismatic material, which she illuminates by analysis of the archival evidence, drawing particularly on the sources preserved in the departmental archives of the Côte-d'Or in Dijon.

Approximately two-thirds of the book is devoted to a historical survey and one-third to a catalogue of the coinage. The Capetian period receives rather cursory treatment, to a great extent due to the scarcity

of documentary evidence for this dynasty. Statistics on the volume of coinage only become available from 1265. One is nevertheless grateful for the decision to include the Capetians since, as the author observes (p. 44), "the policy of [the Capetian Duke] Odo IV in monetary matters marks the almost complete and continuous independence of the duke of Burgundy with regard to his suzerain and his contempt for restrictive conventions." At the beginning of the Capetian dynasty, Burgundian mints were striking coins in the name of royal, comital, episcopal, and abbatial authorities, but there is no evidence that any of these mints were under the direct control of the dukes. What a contrast to the time of Odo IV (1315–49) who began the practice of minting outside the kingdom of France, thus evading royal restrictions on the minting of white and gold coinage in the kingdom. Although soon compromised during the minority of Philip of Rouvres (1349–61), the precedents established by Odo IV formed the basis for later Valois claims to monetary independence from royal control.

The Valois claims were not to be realized in the Burgundian territories proper. One of the striking impressions that emerges from the discussion of monetary output under the Valois dukes is how subservient they were within their Burgundian territories to the royal prerogatives. The output of these Burgundian mints was relatively modest, with silver and gold issues still being restricted to the mints outside the kingdom of France. Even in the fifteenth century, when Burgundy dominated France and the grand dukes styled themselves *Dei gratia dux Burgundie*, they still issued coins from the royal mints under their control in the name of the reigning monarch, be he Charles VI, Henry VI, Charles VII, or Louis XI. Still, it is striking (and one of the positive results of a limited study such as this) how independent the administration of the mints of Burgundy proper was from that of the mints of the north. Although the ducal orders might come from Lille or Brussels, the supervision came from the Chambre des Comptes in Dijon.

One of the shortcomings of this study, however, is that it rarely considers the magnitude of Burgundian power or evaluates its subject within the larger context of the Burgundian state. The fact is that, by virtue of a sequence of propitious marriages, purchases, and conquests, the dukes of Burgundy had amassed a polyglot confederation of states which straddled the frontier between France and the German empire.

Governing these territories from their capital in Dijon (Côte-d'Or) and, later, from Flanders, they were able to evade the restrictions of both the kingdom and the empire, flaunting their independence from both. At the height of their power and influence, the grand dukes of Burgundy entered into discussions with the papacy with the aim of being recognized as a sovereign state. By this time, Burgundy controlled not only the Duchy of Burgundy and the County of Burgundy (now known as the Franche-Comté), but also Flanders, Brabant, Hainault, Luxembourg, Zeeland, and Holland.

The restriction of this investigation to the coins struck by the dukes of Burgundy in the Burgundian territories proper results in serious distortions of the discussion of Burgundian monetary policy. For example, the author declares (p. 75) that "Philip the Good began to lose interest in his mints." This may be true with regard to his mints in the Burgundian territories but, in the Lowlands, Duke Philip was engaged in a bullion war with England from 1428 on and, in 1433–34, a single gold and silver currency was being established for Flanders, Brabant, Holland, Zeeland, and Hainault. There are, fortunately, important recent historical studies of the monetary policy of the dukes of Burgundy in the Lowlands, including John H. Munro's, *Wool, Cloth, and Gold: The Struggle for Bullion in Anglo-Burgundian Trade, 1340–1478* (Toronto, 1972) and Peter Spufford's *Monetary Problems and Policies in the Burgundian Netherlands, 1433–1496* (Leiden, 1970).

It is, admittedly, unfair to ask the author to produce a different work from the one she has chosen to undertake. Let us hope that Mme. Dumas-Dubourg's work will encourage further investigations.

ROSALIND K. BERLOW
New York, New York

László Kovács. *Münzen aus der ungarischen Landnahmezeit: Archäologische Untersuchung der arabischen, byzantinischen, westeuropäischen und römischen Münzen aus dem Karpatenbecken des 10. Jahrhunderts*, trans. Mátyás Esterházy. *Fontes Archaeologicae Hungariae*. Budapest: Akadémiai Kiadó, 1989. 188 pp., 29 pls.

For the numismatics of western Europe, the tenth is the darkest of centuries. The emergence of regional issues from the breakdown of the unified Carolingian coinage is documented by few coin hoards or written

sources. In contrast, spectacular coin finds illuminate an arc to the north of the Carolingian heartland. From the Cuerdale (Lancashire) and Fécamp (Seine-maritime) hoards in the northwest, through the Viking Age hoards of Scandinavia and the European North Sea coast, to the river valleys of the eastern plains and Danube basin, finds of large numbers of tenth-century coins provide a rich source for historical and archaeological as well as numismatic study.

Finds of coins of the tenth century hold particular interest for the history of the Carpathian basin as they are among the richest sources from the period of the settlement of the Magyar people in the area. The book under review comprises a catalogue of all coins found in tenth-century contexts in the Hungarian region and analysis of the significance of these finds for the historical and archaeological interpretation of this settlement period.

The emphasis of the analysis is on coins found in graves; a large hoard of Islamic dirhams and four imperfectly recorded hoards of Byzantine coins are included in the catalogue but discussed little. The 275 other coins of established provenance come from a total of 91 graves. The author analyzes these grave finds according to place and period of minting, geographical distribution of finds, and the association of coins with skeletal remains and other artifacts on a grave-by-grave basis. These discussions are accompanied by clear and detailed charts and maps.

From his analysis of the archaeological context of these finds, Kovács concludes that European and Byzantine coins, which are chiefly from graves he interprets as belonging to warrior chieftains, were acquired mainly as tribute and booty from Magyar military activity. Though Islamic coins are also mainly from male inhumations with weapons, these are explained as the result of trade relationships. The common association of bronze Roman coins of the third and fourth centuries (assumed to have been retrieved from the earth in the tenth century) with the burials of women and children is ascribed to the lower intrinsic worth of these pieces.

In view of the importance of this material for an understanding of the early history of Hungary and the large amount of polemical discussion cited, these interpretations are not likely to be the last word on the topic. Kovács himself acknowledges frustration in solving the crucial

question of the length of time between the importation of the coins and their deposition in graves. This is an illustration of the problems caused by the standard use of the minting dates of coins as a *terminus post quem* for archaeological contexts and the resulting circularity of attempting to date the burial of coins by association with artifacts whose chronologies are derived from such contexts.

While the author's archaeological analysis appears to derive from a thorough exploitation of up-to-date literature, the same cannot be said of his numismatic discussion. The catalogue references for European, Byzantine, and Roman coins are mostly to old and often outdated works; few of the Islamic coins have any reference at all. For some series this is of little consequence: issue dates from the *Corpus Nummorum Italicorum* are (unfortunately) still the most precise available for most Italian coins of the tenth century, and few of Prou's attributions of Carolingian coins have been challenged by research this century. The accuracy of dates assigned by Cohen to fourth-century bronzes is not crucial to the discussion of their appearance in tenth-century graves.

In other cases, however, uncritical reliance on old references can have a substantive effect on archaeological and historical interpretation. For Byzantine coins, the references given here are mainly to Wroth's 1908 catalogue of the British Museum collection. Coin 214 (illustrated on pl. 9) is a bronze follis of Romanus I alone (misattributed in the catalogue to Romanus I and Constantine VII but correctly referenced to *BMCByz* 14). Wroth dated this coin to the period 919–21, but the more recent catalogues of the Dumbarton Oaks Collection (*DOC* 3.2 [1973], pp. 562ff., 25) and the Bibliothèque Nationale (*BNC* 2 [1970] 37/Cp/Æ/31–47 type 3) extend the possible minting of the issue as late as 944. The current broader dating of this coin expands the possible period of its importation to Hungary and has consequences for inferences drawn from it.

The attribution and use by Kovács of French coins of Brioude is an even more striking example of incomplete numismatic research. Deniers of this mint in the name of a Count William appear in two Hungarian graves, once (Kovács 64) with another French coin and in another grave containing 22 specimens of the issue (Kovács 171–92) along with 17 other French and Italian coins. The catalogue reference for the single

specimen is to the standard catalogue of Poey d'Avant (1858), where the inception of the coinage is placed generally in the second half of the tenth century and characterized as having had a rather long period of immobilized issue. For the 22 specimens Kovács gives only a reference to Engel and Serrure's 1891 manual, which just summarizes the information from Poey d'Avant. The catalogue descriptions by Kovács, however, bear an unsupported attribution to William II of Auvergne (918–26). This count was involved in factional fighting in which Hungarians may have taken part, and the finding of these coins is taken by Kovács to identify the associated skeletons as warriors who were on a specific Hungarian military expedition (pp. 102–3). However, the attribution appears to derive from the historical inference rather than serve as the basis of it. Even if the original issue was begun under William II, the type was immobilized and continued into the eleventh century, as confirmed by its significant representation in the Fécamp and Le Puy hoards (cf. Françoise Dumas-Dubourg, *Le trésor de Fécamp* [Paris, 1971], pp. 254–58). The publication by Kovács of such a narrow attribution for these coins could be highly misleading for the type of archaeological and historical inference his book was intended to support.

This catalogue publishes and illustrates a portion of the tenth-century coin record which is of great potential value to numismatists; the northern Italian coinage of the period is particularly well documented in the Hungarian finds. However, more thorough and serious numismatic analysis must be done on these finds before they can be truly useful for the kind of historical and archaeological inferences attempted here.

ALAN M. STAHL

American Numismatic Society

Brita Malmer. *The Sigtuna Coinage c. 995–1005*. Commentationes de Nummis Saeculorum IX–XI in Suecia Repertis Nova Series 4 (Royal Academy of Letters, History, and Antiquities in collaboration with the Numismatic Institute in Stockholm University, the Central Board of National Antiquities, and the Royal Coin Cabinet. London: Spink and Son Ltd., 1989. 120 pp., 36 pls. ISBN 91–7192–766–2, ISSN 0284–7205.

This is the second volume to be published of the new series of analytical reports on the Viking period coins of Sweden called *Commentationes de Nummis Saeculorum IX-XI* (cited here as *Comm.NS*). The two volumes of the first series appeared in 1961 and 1968, and each of these presented collections of short articles on different topics. The new series aims instead at treating larger subjects comprehensively in monograph form. The first volume, by Kenneth Jonsson, was entitled *The New Era. The Reformation of the Late Anglo-Saxon Coinage* (1987). The present volume considers the coinage attributed to Olof Eriksson (Skötkonung) at Sigtuna (ca. 995–ca. 1005). This coinage, which comprises the earliest distinct group of Scandinavian Aethelred imitations, includes Crux, Intermediate Small Cross, Long Cross, Helmet, and Byzantine types. Brita Malmer plans two more related volumes: the next will be a catalogue of the later group of Scandinavian Aethelred imitations, coined by Cnut the Great at Lund ca. 1018, and the third will synthesize the two groups for a consideration of the coinage as a whole.

This entire series complements another series in publication since 1975: *Corpus Nummorum Saeculorum IX-XI qui in Suecia Reperti Sunt* (cited as *CNS*). With the *CNS*, Swedish numismatists are attempting to publish a complete catalogue, organized by parish and province, of Swedish Viking period coin finds. Parts of Gotland, Scania, Östergötland, Dalarna, among other districts, have thus far been published. The *Comm.NS* volumes, on the other hand, take their subjects without regard for geographical bounds, and so in this volume, all coins of this early phase of the Sigtuna coinage found from Iceland to the Soviet Union have been included.

Among the almost 3,000 Scandinavian Aethelred imitations in existence, the first English type to be imitated in large numbers was the Crux type (ca. 991–97) with imitations dating from the mid-990s. As most of the imitations are anonymous, researchers are limited to a small minority of coins with legible and meaningful legends in the effort to assign attributions of time and place to the coins. The Olof Skötkonung coins of Sigtuna and Cnut's coinage from Lund (ca. 1018), known as the southern Scandinavian coinage, form the two core groups of coins to bear intelligible legends.

In this volume, Malmer attempts, after decades of compiling the data, to bring together all the certain Olof coins from Sigtuna and any others that can be connected to them either by die links or by strong stylistic indications and to publish their characteristics in detail (a total of 1097 coins from 301 dies). The analysis offered, which is very much preliminary, concentrates mainly on chronology and skims over some questions such as metal content or geographical distribution of finds. Other questions such as coin weights are discussed more fully, but no conclusions can be drawn, especially since the whole body of material is not yet available. Section headings include previous research, styles, chronology, weights, circulation, and technical notes.

On the whole, the text has been written for the experienced numismatist who is already familiar with this coinage. Malmer assumes that the reader understands numismatic technique and terminology as well as the nature of early Scandinavian coinage, for her analysis wastes few words on background material and explanations that can be found elsewhere. This makes for difficult reading for some who would otherwise have an interest in the study, but references in the text and the extensive bibliography will steer readers to a variety of other works of which Malmer's study is the present culmination.

In her preface, Malmer calls her work the writing of a "new Hauberg," referring to P. Hauberg's 1900 publication, *Myntforhold og Udmyntninger i Danmark indtil 1146*. It is more than this, of course. The entire *CNS/Comm.NS* project has been an attempt to modernize and expand as far as possible the old catalogues produced several generations ago. New finds alone make a great difference in the numismatic picture, and twentieth-century scholarship has gradually been sorting out this vast coinage. For example, Mark Blackburn and Michael Dolley, among others, have taken a great interest in the Aethelred imitations and their connection with English types, and in Sweden Bertil Petersson has worked extensively with the weights. Malmer's own work on the EDED group, published in *Wiadomosci Numizmatyczne* 29 (1985), is superseded by this analysis (p. 45). The author incorporates the earlier results with her own analysis of all available coins from the early phase thus producing the most comprehensive effort to date. Certainly this work will be the standard for quite

some time while numismatists work on fitting in new finds and adjusting small portions of the whole.

The catalogues 1–3 are the key feature of the publication. Here we find detailed descriptions of each coin from the early phase of Sigtuna's output. Catalogue 3 gives the geographical location and terminus post quem of the known finds. Catalogues 1 and 2 present the coins in two series, classic and new.

The classic series is distinguished by the presence of certain intelligible legends, but it must be stressed that the two series are closely interrelated by die links. Malmer has tried to number and illustrate with photographs all the dies individually (even those which appear to be re-engravings of original dies) as well as list all the combinations in which they appear. The text on each die is also reproduced. The results are most thorough.

The coins have been described according to the *CNS* standard with a few improvements in the treatment of such traits as round vs. square coins and die axes. Catalogues 1 and 2 are full of complex and abbreviated detail, and it is difficult to understand why the author has chosen to refer the reader to volumes of the *CNS* series for explanatory notes that are absolutely necessary for understanding entire columns of data published here (p. 59). This is one particularly disturbing omission among several. In catalogue 3, the current location of the surviving finds is left out, although it should have been easy and would have been useful to include this information. Swedish finds can be traced through their accompanying "J" number (with reference to K. Jonsson, *Finds of Viking-Age Coins in Sweden* [Stockholm, 1989]), but again that requires consulting another volume (p. 60). There remains no easy solution for tracing the present location of the foreign finds.

The findings of the preliminary study leave us anxious to see the remaining portions concluded. Much of the analysis hinges on die linkage and the impressive die chains that Malmer has constructed. Tables 4.1–6 and related figs. 4.1–3 show the chronological development of coin types and the longevity of the three major die chains (on which much of the analysis is based, pp. 23–29). These results in turn suggest the level of productivity at the mint or mints and the approximate number of die engravers at work. Weight and technical variation imply changing political and economic factors as well as a probable season-

ality of production (pp. 36 and 21). The use of dies imported from England and other dies which may have come by way of southern Scandinavia (stylistic observations strongly support this connection) suggest connections which we do not yet understand. Coin types ranging from well-executed English-style to heavily barbarized local style exist at times alongside a technically much superior local style, further complicating the issue of how these coins were produced (pp. 17, 21, and 48).

An unusual phenomenon of Scandinavian Viking period coinage is the number of heavier square coins interspersed with round coins from the same dies. No square coins interspersed with round coins appear in English or Danish coinages. In section 5, Malmer considers all the coins according to type and weight and finds some potential relationships between the square and round versions. We can at this point only guess why the square coinage was produced at all (pp. 30–31). Malmer offers two hypotheses, but she does not investigate here whether the square coins circulated differently than the round coins—a factor which ought to have strong bearing on the question of their purpose.

At this preliminary stage, the author makes a number of suggestions but does not attempt to apply her results in any conclusive way to the greater political historical sphere of Sweden. Instead, she has provided the raw data for such considerations to begin, especially once the later Sigtuna coinage is also published.

My main complaints relate to the extreme condensation of the material which results in difficult reading. It would seem that too great an effort was made to conserve space in the publication. Tables 4.1–6 (pp. 23–27) lack adequate column headings for reasonably easy interpretation. The omission of full explanatory notes and useful data from the catalogues has been discussed above; furthermore, column numbers (not headings) are given only once at the beginning of each catalogue whereas something at the top of each page would have been helpful.

Finally, since the die chains are so critical to distinguishing the Sigtuna coinage from the mass of Scandinavian Aethelred imitations, I would have liked to have seen a clear introductory discussion, no matter how brief, concerning the rationale involved in studying these die links and what the author expects to be accomplished with the help of the resulting die chains. Perhaps this is too elementary for other numisma-

tists, but the results of this and similar studies have great potential for wider application in both historical and archaeological research. A little explanation goes a long way towards greater accessibility of the information, for this is indeed a major work of great importance.

DEBORAH J. SHEPHERD

The University of Minnesota, Minneapolis

Gilles Hennequin assisted by Gérard Krebs. *Les Collections monétaires, 1: Monnaies de l'Islam et du Proche-Orient*. Paris: Administration des Monnaies et Médailles, 1988. 390 pp., 36 pls. F 390.

This handsome catalogue, presenting the Islamic coins of the Paris Mint Museum, is part of a larger project to catalogue the museum's entire collection that has already produced volumes on the ancient world, the Far East, and other subjects. The catalogues not only list and illustrate the coins, but seem intended to serve as general handbooks for the coinages they cover, a goal that is not attained by the present volume.

There is first of all the question whether any catalogue of a single collection should also try to be a general handbook of the subject. No collection can be complete for an immense category like Islamic coinage, so the treatment is necessarily uneven; in the present work, for example, several uninteresting pages are devoted to the earliest Islamic coinage, that of the Umayyad caliphate, although there are no Umayyad coins in the collection. Museum catalogues need introductions, but a useful introduction will describe the collection and remarkable coins in it rather than pretend to provide a general overview of the subject. One would like to know, for example, how the museum's Islamic collection was built up, what are its strengths and weaknesses, and what objects in it are of special interest.

Secondly, if there must be general introductions, let them be done by experts, like Thierry's fine discussions in the Far Eastern volumes of the Monnaie's series. For the Islamic volume, only the catalogue listings were prepared by Hennequin. The general and individual dynasty introductions, by Gérard Krebs, are simplistic and misleading. To mention only one example, the "système monétaire" of each dynasty is

briefly described by a list of two or three or more denominations and their standard weights (often wrong), as if the dynasties were somehow unitary states without variation in coinage within their territories or over the years. Most introductions include one or two well done line drawings of typical coins, with translations of the inscriptions; but the illustration of only three coins out of the vast variety of Ottoman issues, for example, is of no help to the novice and of no interest to the specialist. The introductions also provide brief histories, lists of rulers for many dynasties, and incomplete lists of mints.

One peculiarity of the introductions is the barbarous orthography of personal and geographic names, as compared to the careful transliteration, using the standard modern European system, for the same names in the catalogue itself. Aside from the confusion created by this duality, why would anyone choose to use archaic literary forms for Islamic names in a discussion that pretends to be a guide for non-specialists? Except for a very few well-known figures and places, all these names are completely unfamiliar to the general public; why perpetuate these usages, and why not accustom the beginner at the outset to the use of simple contemporary transliterations that accurately reproduce Arabic spelling and classical pronunciation? In sum, the introductions in this catalogue, instead of making the book more attractive to a general audience, will merely reduce its sale by increasing its price.

One turns with some relief to the catalogue itself, which is excellent. The Mint Museum's strengths, naturally, are in the coinages of modern times and of countries with which France has had close relationships. The 543 Ottoman and the 336 Moroccan coins in this extensively illustrated catalogue are essential for specialists (both collectors and academics) in either of these series.

Other areas of interest are the later North African dynasties (after the Muwaḥḥidūn); the machine made coinage of the twentieth-century Middle East, especially those nations with links to France such as Algeria, Tunisia, Lebanon, Syria, and Jibouti; a fine series from Ethiopia; surely the world's largest public collection of Comores Islands coins (53 specimens); and Israel. Since this is a mint collection, it is natural that there are many essay and proof coins. There is very little material earlier than the eighteenth century.

The descriptions are accurate and as detailed as necessary, giving for example not only weights and diameters but also, unusually for Islamic coins, die axes (but is it really necessary to give the die axis for machine made coins when every example from the same country has the same axis?). Full inscriptions in Arabic type are provided for the few pre-modern Islamic coins, while the Ottoman and other recent coins are described simply by reference to a standard catalogue unless there is something extra to say. Unpublished coins are noted and a few especially interesting specimens have useful annotations by Hennequin. For example: 3, a dirham of Irminiyya, 191 H; 561, an anonymous Marinid gold piece for which Hennequin corrects the reading of Hazard 704; and 1494, of Misr, 452 H, noting a missing word in one marginal inscription. (Since mint errors were rare at the Egyptian mint at the time, and specimens are known with the correct inscriptions, it might be interesting to check the alloy of this coin by specific gravity in case it might be a Crusader imitation. The weight and style, however, are apparently normal.)

The plates are superbly photographed and comprehensive. It seems that every hammer struck coin has been illustrated, and a large proportion of the machine struck. There are two indices, of personal names and of places mentioned in the catalogue.

The weakest point of the catalogue is its ostentatiously wasteful layout. Every new ruler or government begins a new page, resulting in dozens of pages with only a few lines at the top to describe a single coin; every country begins on a righthand page, resulting in many empty pages. For example: three large pages are used to list five coins of Eritrea (a blank page followed by a page with four coins of Umberto I of Italy followed by a single page with "divers," a single coin); the five coins would have fit comfortably in the blank spaces included in the subsequent six pages on Jibouti, with room left over for the subsequent five coins of Somalia that use up two pages, comprising only one-third page of print. Zanzibar, which follows, uses two pages for seven coins that could have been listed in half a page, and so on. In addition to the huge empty white expanses, a full blank line follows every coin listing; and for 90 percent of the listings, the minimal data needed could have been presented in a two-column page format—perhaps as many as four times more coins on each full page. Then there are the narrative intro-

ductions, discussed above, and a preface full of romantic nonsense: “un univers de beauté abstraite...un farandole de signes, d'autant plus forts qu'ils se font plus mystérieux.” C'est belle, mais ce n'est pas la numismatique.

What justification can there be for this conspicuous consumption, against all the dictates of ecology, cost, and convenience? The series volume for Vietnam and Japan, in contrast, is very compactly presented and still quite legible and attractive.

In sum, this is a book with all the earmarks of management by a committee with no clear idea of its purpose or audience. Hennequin's part of the book is well done, but could have been presented in half or a third the number of pages. The book is too expensive and too uneven in coverage for collectors, too expensive and too peripheral for general academic libraries, too expensive and too general for scholars. With more realistic goals, it would have been a useful compendium with wide distribution.

MICHAEL L. BATES
American Numismatic Society

MODERN

Mark Jones. *A Catalogue of the French Medals in the British Museum*, vol. 1, A.D. 1402–1610. London: British Museum Publications, 1982. 282 pp., 274 illus. ISBN 0-7141-0855-3. £35.00. Vol. 2, A.D. 1600–1672. London: British Museum Publications, 1988. 335 pp., 353 illus. ISBN 0-7141-0856-1. £75.00.

In the study and appreciation of the portrait and commemorative medal there remains such an enormous amount of work to be done in every area—stylistic attribution, dating, iconography, metallurgical analysis, production techniques, connoisseurship—that the appearance of a serious catalogue or an art historical study of the subject must be greeted with eager anticipation by the small but growing band of devotees who cherish these evocative works of art. In recent years such publications have been appearing with gratifying frequency, describing either major collections or particular categories of medals. In addition,

medals have been included in major exhibitions, themselves accompanied by useful catalogues.

Added to this growing body of literature are the first two volumes, by Mark Jones, of a projected seven-volume catalogue of the French medals in the collections of the British Museum. Although the first volume has been available since 1982, it seems appropriate to include it in a review of the second volume, which appeared in 1988.

Jones's work goes a long way toward filling one of the two largest gaps in modern medallic scholarship: early French medals, 1400–1700, the other being Italian medals of the sixteenth century, unfortunately not covered in Hill's indispensable *Corpus*. Unlike Hill, however, Jones's work is dependent on the holdings, admittedly extensive, of the British Museum, and therefore does not function as a true corpus. Nonetheless, considering that the last significant publications concerning French medals of this early period date from 1904 (Mazerolle and Rondot) and that there is only a very sparse literature devoted to the greatest French medallists, Guillaume Dupré and Jean Warin, we welcome these volumes with a sigh of gratitude.

In a useful but much too brief introductory essay to volume 1, Jones points out the peculiarities in the evolution of the medal in France. It is no exaggeration to say that the Renaissance portrait medal was invented in Italy in 1438 by Pisanello and that this startling addition to sculptural form did not begin to have a lasting impact in France until the end of the fifteenth century, nor reach full fruition until the early seventeenth century in the cast medals of G. Dupré and J. Warin.

The fundamental differences between the situation of the medal in France and in Italy demonstrate in dramatic fashion the role played by the medal not only as a work of art, but as a direct representative of political, philosophical, and social systems. In Italy the medal was born out of the development of humanism and the revival of classical antiquity, movements which are, themselves, the result of the growth of city states and a strong, independent middle class looking back to its cultural roots. The status of the individual, respect for learning and an elegant and refined style in all aspects of life, and the encouragement of individual patronage are all elements of this society and are expressed with force and succinctness by the portrait medal with its eloquent and learned reverse image.

Such an atmosphere fostered originality and a simple, vigorous style in the fifteenth century leading to refinement and virtuosity in the cast medals of the sixteenth and early seventeenth centuries. With Italy as the source of inspiration for medallic art, a similar political, economic, and social situation in Germany in the sixteenth century, modified by a different temperament, values, and intellectual climate, also produced a variety of patrons, artists, and styles with an impressive array of powerful portraits.

In France the medal developed in very different fashion, as can be seen quite clearly in the British Museum catalogue. In volume 1, save for a few examples such as the controversial medals of Germain Pilon and the efforts of the Italian Jacopo Primavera, the bulk of the work was struck, not cast, at centrally established royal mints under the direction of a selected and limited bureaucracy of mint masters and die cutters. Both because of the technique and the limited range of artistic involvement, such work took on an "official" sameness and became a vehicle for royal propaganda in a dry and uninspired style, much as did the medallic output of the papal mint over the same period.

Volume 2, although it reveals that this basic system did not change, does reflect the fact that, by the early seventeenth century, France had taken over from Italy the domination of medallic art. In effect the second volume of the catalogue becomes virtually a collection of monographs of prominent artists with an overwhelming emphasis necessarily placed on the works of Guillaume Dupré and Jean Warin, whose cast medals assume a place at the very pinnacle of the medium. The rest of the artists included in this volume, even those as important as Pierre Regnier and Nicholas Briot, remain in the category of mint masters whose struck medals rarely excite more than a little interest aesthetically.

The general format of Jones's entries is excellent. Descriptions of each medal are detailed; legends are transcribed in full and translated if in Latin; materials, techniques, and dimensions are all included, followed by a list of examples in other public collections with their dimensions and physical composition. Most catalogues indicate the area across which the diameter was measured by using a circle with an arrow across it. In neither volume does Jones employ this standard and useful device.

The method of stating dimensions was modified between the two volumes, and this raises an important point. In volume 1 only the basic diameter is listed, while in volume 2 the thickness is also included. Size, particularly in the case of medals, has always been an important criterion in the estimation of the age of a particular cast, and has, in fact, become an obsession with some collectors. The variables, however, are so many as to suggest great caution when using such data to judge any given specimen of a medal. Certainly when taken in conjunction with clarity of image and lettering and the color and patina, size is a criterion that cannot be ignored. Still, several important questions must be posed: which example establishes the standard? between which two points on a medal should the measurements be taken? what variations are there in the instruments used? what degree of difference is acceptable between an acknowledged "early" or "original" cast, and the specimen under consideration? of what real significance are variations in thickness (not discussed by Jones)? It would have been useful to have a more detailed discussion of all these points somewhere in the introduction to either of these volumes.

In both volumes Jones describes and illustrates every specimen of a given medal in the British Museum collection, and this thoroughness is of great value, since it enables the reader to compare a number of versions of the same medal. It would, of course, have been of even greater value if the quality of the illustrations had been better, but the serious shortcomings in all aspects of the production of these volumes are reserved for discussion below.

Among the most beautiful, enigmatic, and important objects in the development of the medal are the representations of the emperors Constantine the Great and Heraclius purchased for Jean, Duc de Berry, in 1402 and copied for him, presumably by his court goldsmiths. Not only does the entire history of French medals in a sense begin with these two pieces; so indeed does the entire history of medallic art anywhere, including Italy. Jones very aptly refers to these two pieces as a "false dawn," and accurately states that they had no further influence on the evolution of the French medal. It is certain, however, that they were known in Italy at least by the end of the fifteenth century and were considered to be ancient until the late seventeenth century, and it is

safe to assume that they were known to Pisanello and thus influenced him in his original conception of the basic format of the portrait medal.

Jones begins his first volume with an extensive discussion of these complex objects, which were originally jewelled pendants but were transformed through copies into medals. His entries for the Constantine and Heraclius medals (1–4, 5–7) may be taken as examples of his conscientious scholarship throughout the two volumes. In almost all instances he has not only gathered the available information, listed existing examples, and cited relevant bibliography, but also, wherever possible, attempted to introduce new information and ideas, especially regarding the complex and obscure reverse of the Constantine medal. To have been able to accomplish this while also producing the catalogue itself is remarkable and deserves much commendation.

Volume 1 proceeds chronologically through the extensive, though rarely distinctive, medallic output of the sixteenth century. Very few of the artists merit the name and should be more accurately thought of as mechanics cutting dies for a mint and often working from a model, sometimes in wax, provided by a master proficient in one of the fine arts such as sculpture. When one does encounter attractive cast medals, they are most often directly from the hand of such a master or from a goldsmith. Examples that stand out for their quality include the large and handsome medal of Louis XII and Anne of Brittany (15) commissioned by the city of Lyons to honor Anne upon the occasion of a visit, and the controversial work of Germain Pilon (114–21). Virtually nothing else during this entire period equals the quality of the work being done in Italy and Germany. It is all very dry, very official, and very much an adjunct to the minting of coinage.

Mention should be made of one of the most dramatic and fascinating groups of medals of the period covered by this volume: the medals attributed to the great French Renaissance sculptor, Germain Pilon (spelled alternatively, as by Jones, Pillon). Jones briefly presents most of the known facts relating to the large cast pieces that include not only the Valois rulers Henry II, Catherine de Medici, Charles IX, and Henry III, but the Chancellor René de Birague. This is not the place to discuss in detail the many questions raised by the attribution of these medals to Pilon. Jones's presentation is much too cursory and does not even begin to suggest all of the problems surrounding these medals. He justifiably

accepts Pilon's authorship of the Birague medal on both stylistic and documentary grounds, if the reverse of the British Museum specimen may be taken as a "signature"; but his reasons for including the Valois series among Pilon's work are far from convincing. The astonishing character of these portraits certainly merits far more space than they are given, even though at present a definitive conclusion cannot really be offered.

It is regrettable that volume 1 was produced on what appears to have been a severely restricted budget. The text seems to have been set directly from a typescript or computer printout, and the plates are rather muddy, in some cases practically illegible. Artists' names are not printed in bold type or otherwise highlighted, and are easily confused with the names of their subjects. In certain instances, especially early in the book, Jones gives the name of the artist followed by the catalogue numbers of his work in parentheses, but this practice is soon abandoned.

Certain inconsistencies also mar the text. Normally the location of a specimen is listed under the name of the museum. Jones lists the distinguished Morgenroth collection, now in the Museum of the University of California, Santa Barbara, as "Chicago, Morgenroth," which is very misleading. The catalogue of this collection was published in Chicago in 1944 by Ulrich Middeldorf and Oswald Goetz.

In the entry for 23 the medal is described as "cast lead" and is clearly so, but in the notes Jones refers to the pieces as having been struck. It is crucial in a work of this sort that the distinction between the two processes be maintained, since they are so often confused by the amateur.

Another example of inconsistency occurs with 62, where Jones describes the medal inaccurately by confusing the subject's with the observer's point of view and then immediately reverses his own practice. These and other mistakes, plus a distressing number of typographical errors that seem to reflect bad editing, mar an otherwise admirable book.

The hope that volume 2 would display improvements over the appearance and quality of its predecessor is only partially fulfilled. One is reminded of the old nursery rhyme about the girl with the curl in the middle of her forehead: "When she was good, she was very, very good,

but when she was bad, she was horrid." Certainly the physical aspects, including the photographic reproductions, of volume 2 are of higher quality. The printing appears to have been done in true offset, and large, bold capitals are employed for artists' and subjects' names. The text is printed in double columns, and the page layouts are clearer and more legible. The inclusion of color plates testifies to the greater importance and more lavish budget assigned to this volume, although their questionable quality renders their inclusion somewhat redundant.

A rude disappointment, however, awaits the reader. The editing is appallingly sloppy. There are so many typographical errors that one doubts whether page proofs were ever verified. The number of errors, extending even to transcription of legends, throws the integrity of the entire text into doubt.

The question of inadequate or non-existent editing extends as well to the style and content of the text proper, including acceptable punctuation. The length of Jones's introduction to volume 2 contrasts with the brevity of the same section in volume 1, but here, as well as in the lengthy texts devoted to individual artists, his style has all too often become extremely convoluted and obscure, almost as if it had been translated from some difficult foreign language.

There is also a sense that fascination with the statistical output of the computer had dominated the text and rendered it even more complicated and difficult to understand. Elaborate tables combine with analyses of subject matter and distribution to choke a text that in other ways fails to make its points clearly, as in the discussion of devices and the "right" to commission a medal. It is as if the author had difficulty organizing and assimilating the great mass of information he so laboriously amassed. Although he covers most of the basic elements of the development of medallic art as they relate to the period under discussion, he has not done so selectively or succinctly, so that the text has become disjointed and often irrelevant. It is obvious that throughout both volumes a great deal of careful scholarship has been done and carefully footnoted, but equally apparent that severe and meticulous editing has been woefully lacking.

As just one example of inconsistency, Jones gives Ruzé's date of death as 1632, but then states that "in January 1631 . . . he fell ill and died." At 194 the medal is dated 1633, yet the subject, Bassompierre,

was incarcerated in the Bastille from 1631 to 1643. Was a medal made for him while he was in prison? Again, one of Warin's most beautiful and successful medals, the commemoration of the laying of the foundation stone of the church of the Val-de-Grâce (208), is dated on the reverse 1638, yet the heading for the medal includes a date of 1645, and Jones asserts that the medal was made for the commemoration ceremony on April 1, 1645, without explaining the discrepancy in dates.

For yet another example of the profusion of mistakes one encounters in the text one may take 255, where the legend on the reverse of the medal itself is transcribed in place of the different legend shown in the 1702 engraving reproduced in fig. 48. One cannot even be certain of the accuracy of the plates. The pairings of obverses and reverses of 292–94 have been completely jumbled, as has their proper numbering to correspond with the text. These and many other examples, in addition to the typographical errors, seriously compromise both volumes of the catalogue.

Despite these constant annoyances the text is of immense value and quite different in character from that of the first volume, reflecting the new status achieved by the medal in seventeenth century France. The book is organized around five major figures—Guillaume Dupré, Pierre Regnier, Nicolas Briot, and Jean and Claude Warin—and a dozen or so medallists of lesser importance. Jones's essays on these artists are of great value and satisfy a pressing need for updated information and analysis of their careers. His assessment of their respective places in the development of medallist art in France during this period is sensitive and perceptive.

If one needed confirmation that in medals the most expressive portraiture, the most successful compositions, and the most subtle modeling techniques issued from the hands of sculptors and painters rather than die engravers, it would be found in the work of Guillaume Dupré. He stands as something of an anomaly in the history of the medal in France but, as Jones so perceptively points out, he also represents the final flowering of the art of the sixteenth century medal in Italy as it had been developed by artists such as Leone Leoni, Jacopo Nizolla da Trezzo, and Pastorino. He is an anomaly precisely because he worked as a sculptor, even though his extraordinary ability as a medallist earned him a post as *Contrôleur Général des Poinçons et*

Effigies des Monnoyes de France. He possessed the ability to render in exacting detail elaborate armor, heavy brocades, complicated elements of clothing, layers of delicate lace, and all the nuances of individual physical characteristics while at the same time controlling them within an unusually sensitive total portrait.

Dupré's medal of Christine de Lorraine, 45, is a perfect example. From the noble proportions of the lettering and the carefully chosen size of the pearling to the balanced composition of the bust, the masterful modeling of the widow's veil, the range of textures of the fabrics and the lifelike individuality of the portrait, all aspects of this medal reflect the hand of a great artist. It is not entirely accurate for Jones to state in his essay on Dupré that "he exerted little influence over his own or the succeeding generation." Certainly in the cast and even the struck work of his contemporaries and successors the impact of his achievement can clearly be seen.

Such an assertion might not be possible in the case of the remarkable single medal we possess from the hand of the sculptor Jacob Richier, the portrait of Marie de Vignon, 87, even though it ranks in quality with the best of Dupré's medals and reinforces our opinion that the most exciting work issues from the hands of sculptors and painters.

In contrast, the majority of the medals produced by die engravers such as Pierre Regnier and Nicholas Briot, whose oeuvre fills large sections of volume 2, are brittle and without character except in rare instances, such as Briot's Dominion of the Seas medal, 144. Jones has chosen to place among the medals produced by Briot during his stay in England the portraits of Lord and Lady Baltimore, 152, though his reasons for doing so are not entirely convincing. The fact that the portraits are derived from painted miniatures may complicate stylistic attribution, much as in the case of the Valois series by Pilon with its derivation from the drawings and paintings of François Clouet, and Jones does admit that any attribution is speculative.

Besides Dupré, the other major figure covered in volume 2 is Jean Warin, and Jones presents a fascinating portrait of this greedy, ambitious, and unscrupulous man. He succeeds in doing so in spite of writing muddled by complicated sentences, incorrect punctuation, and non sequiturs. Offsetting these faults is careful scholarship evidenced by the extremely important discovery of the signed version of the Ruzé

medal, 180, that removes it once and for all from Dupré's oeuvre and places it where it belongs, as a product of Warin's hand.

Jones clearly indicates that Warin represents a decisive moment in the development of the medal in France. He manifests in his work a synthesis of the two basic approaches to the medal because he is at the same time a mint master and die engraver and a painter and sculptor. As a result, continuing the tradition of Dupré, he produced both extraordinarily fine cast medals, such as the Ruzé, 180; Richelieu, 182; Val-de-Grâce, 208; and Louis XIV/Louvre, 239, medals with accomplished portraiture and, in two cases, magnificent architectural representations, and struck pieces that are impressive both in size and in quality of design and execution.

In concluding his invaluable essay on Warin, Jones emphasizes the artist's "pivotal place in the history of the medal. Having acquired a thorough understanding of the potential of the medallic tradition as developed in Italy, he took it and, thanks to his mastery of the machinery at the Monnaie du Moulin, transformed it into a powerful instrument in the service of the state. His vision of the medal was to be immensely influential not only in France, but throughout northern Europe, well into the eighteenth century" (pp. 182–83).

The only other artist of any significance in the remainder of volume 2 is Jean Warin's younger brother Claude, who produced a series of large, uniface cast medals between about 1633 and his death in 1654. Although impressive in size and occasionally attaining a certain pleasing level of quality (as in the portraits of Thomas and Margaret Carey, 289 and 294), for the most part they are somewhat mechanical and lifeless.

Volume 2 concludes with an appendix on the scientific analysis of the copper-based medals by D. R. Hook of the British Museum Research Laboratory, which takes a very realistic view of the benefits and limitations of X-ray fluorescence analysis of medals. The examination of medals by this method has been undertaken by a number of museums and as an increasing volume of data is collected it is possible that some definite patterns will emerge from which useful conclusions can be drawn. As Hook points out, the variables are so great that accuracy in determining the date of a cast or in attributing an unsigned medal to a particular artist is almost impossible to achieve. Experience in handling

medals and the old criteria of clarity, color, and size must, in the end, still be relied upon most heavily in making judgments in connoisseurship, but the application of scientific tools is welcomed for the possibilities they offer.

Both volumes of the catalogue contain detailed indices of artists, sitters, legends, and types and a basic bibliography. The bibliography in volume 2, arranged alphabetically but with author's full name, would have benefited from indentations.

In sum, despite problems of style and production, Mark Jones has made a significant contribution to the study of medals and provided the researcher and collector with an invaluable text that takes its place beside the venerable works of Hill, Habich, Forrer, Armand, Domanig, Mazerolle, and Rondot, to name a few of the great cataloguers and scholars upon whom one relies with deep gratitude.

STEPHEN K. SCHER
Clifton, New Jersey

Thomas L. Purvis. *Proprietors, Patronage, and Paper Money: Legislative Politics in New Jersey, 1703–1776*. New Brunswick: Rutgers University Press, 1986. xxi, 348 pp. ISBN 0–8135–1161–5. \$45.00.

This detailed presentation of the eighteenth century political struggles of members of the General Assembly of colonial New Jersey reveals many parallels to contemporary problems. The book describes the controversy over the methods used by members of the financially elite Assembly to help their constituents and themselves against the domineering restrictions of the English administrations and the manipulative tactics of fellow members. In spite of diverse ethnic and religious backgrounds, Assembly members sought power and support through patronage and compromise from various geographic areas within the Colony. The author shows how economic differences between East Jersey and West Jersey affected control over the Loan Office and the paper money issued by the Colony to support the operations of that institution. He makes one realize that although sound paper money was the goal of the Assembly, there were extremely divergent opinions as to what was sound. It is refreshing to read that the Assembly members

received no compensation for their work and no reimbursement for travel and maintenance expenses, until one realizes that this practice eliminates most population groups from such service and breeds corruption.

The book also shows that from time to time the New Jersey Colonial Governor actually favored many of the Acts he was forced to oppose. This aggravated a difficult situation when the colonists realized that they were dealing with an intellectually dishonest person who had to spend much of his energy holding off criticism from those both above and below him in rank.

The reader is advised to study the author's citations regarding the history of New Jersey's Loan Office before reading the legislative background of the paper money used to support its operation. He has to understand the economic theories relating to legal tender provisions, the effect of the amount of paper money issued and the exchange value of bills, the acceptance of paper money for taxes, the installment repayment of mortgages on the same basis as redemption of the paper money, and the importance of loans on real estate to the development of the Colony. The legislation is shown to have been more difficult because the profit of the Loan Office from interest was used for public expenses, and a portion of the paper money either had to be redeemed or left in circulation after it had been spent by the Colony.

Loan Office decisions on who could borrow were political, and thus the selection of Loan Office committee members was a prerogative the Assembly wanted. The French and Indian War is shown to have disrupted the Crown's paper money policies and the Colony's currency control because of emergency issues giving rise to redemption requirements. One learns that, in contrast to the Crown's position with respect to the other colonies, permission was not granted to New Jersey to authorize its own tax collectors to accept its own currency at face value in payment of its own people's taxes.

Although most colonies were confronted with obstinacy and delaying tactics in obtaining approval of paper money enabling acts, first by the English governor and then by the Board of Trade in London, New Jersey was determined to do what it thought best for its own economic welfare. It had a problem no other colony had, namely two spheres of economic influence, since East Jersey did most of its trade through New

York City and West Jersey did most of its through Philadelphia. In addition the circulation of New Jersey paper and money in New York and Pennsylvania was substantial, even though each of these other colonies had its own paper money. To complicate the matter further, different exchange values developed for the same New Jersey paper money in these two adjacent colonies.

The book states that the Board of Trade blocked all paper money enactments for 40 years prior to 1774, but that blocking did not prevent its authorization and emission, for there are 13 different war issues. If the author had extended this study into the American Revolution, he would have reported that the 1768 authorization of New Jersey money as disapproved, amended, reenacted, and conditioned was finally approved and issued under a defiant act of rebellion from English domination by the New Jersey Assembly on March 25, 1775.

The study of the complex legislative history which the author undertook required extensive research into the lives and motives of Assembly members, and he has brought it to life in this thorough account.

ERIC P. NEWMAN
St. Louis, Missouri

Walter Breen. *Walter Breen's Complete Encyclopedia of U.S. and Colonial Coins*. New York: F.C.I. Press, Inc./Doubleday, 1988. xiv, 754 pp., illus. ISBN 0-385-14207-7. \$75.00.

Quite simply, Breen's *Encyclopedia* is the outstanding twentieth-century survey reference work on United States coinage. It is profusely illustrated, fairly easy to use, and contains the most up-to-date information on all colonial, pre-federal, and regular federal coinages. As such, it is an indispensable volume for the serious collector and scholar, and it will most certainly occupy a prominent place in any basic library of American numismatics.

No work of this type can rely entirely upon new information. American numismatics has been an object of intense concern to collectors and, later, scholars for well over a century, and much of what we know, and do not know, about our coinage has been well understood and articulated for many decades. Breen's book functions admirably in bringing together this older knowledge in a well organized, easily

accessible format. But it also places before us much newer information, both from other scholars and from the author himself. His treatment of the circulating coinages of French Canada and Louisiana (pp. 43–58) is an outstanding example of a personal contribution to his survey text. I have been aware of Breen's interest in this branch of American numismatics since the middle 1970s, when a preliminary article appeared in the ANS's contribution to the American Bicentenary, *Studies on Money in Early America*. But Breen's present discussion of French coinage in America is much expanded, occupying the entire fifth chapter of his new book, and it is the most detailed study of this coinage yet to appear in English. So it can be said that Walter Breen brings together the best of the old and the new, making it accessible to everyone.

The first few pages of the *Encyclopedia of U.S. and Colonial Coins* are concerned with instructions for use, acknowledgments, and useful metrological tables. The main body of the text (pp. 3–673) is divided into eight parts on: early American coins; federal minor coinages; federal silver and sandwich-metal coinages; federal gold coinages; commemorative coinages; the United States provisional branch mint at San Francisco; private, pioneer, and territorial gold coins; and other authorized local issues. Within each large division, there are introductory materials of greater or lesser length, sometimes forming discrete surveys, or "Overviews." A varying number of chapters comprise each of Breen's main divisions, or parts, and each of these chapters is further subdivided as required.

As an example of the book's method of organization, consider the section on United States dimes. This occupies chapter 25 of part three (federal silver and sandwich-metal coinages), and it is in turn made up of sixteen subsections, discussing the dime from its inception in 1794 to the present. Dimes are first grouped into major types by design, with brief introductory materials on designers, historical background, vagaries of strike, etc. They are then discussed by date and major variety, each of the latter receiving a numerical designation in boldface. The numbers serve as reference points, as the author moves back and forth, comparing one type of American coin with another. They also serve as reference points for the reader, especially as Breen

relates his numerical system to those adopted by earlier specialists in the various American series.

The coins discussed are very extensively illustrated, and the photographs are almost always excellent and closely keyed to the text. There are more than four thousand illustrations, averaging four or five per page. Their careful inclusion within the text rather than in a single section at its end is to be commended: I can think of few things more guaranteed to induce slumber than row on row of essentially identical, machine-struck coins—which, after all, is the nature of most American coinage, as it is of any other western metallic numismatic medium of the past two centuries.

To the main text, comprised of nearly fifty individualized chapters, the author appends four general sections. The first of these, called “Bibliography, Abbreviations, Typographic Conventions,” essentially tells us where Breen gathered many of his materials. He lists major publications on American coinage here, works ranging from Crosby’s *Early Coins of America* (1875) to his own *Encyclopedia of United States Half Cents* (1984), citing them by the last name of the author. In addition, he includes less orthodox bibliographic materials: unpublished dissertations and, especially, auction catalogues, essential when discussing American rarities. Breen lists the latter by seller’s name and alphabetically interfiles them with other authors. The writer rounds out this section with a series of abbreviations, which may, among other possibilities, refer to the place where a coin is struck (*S*, for the San Francisco mint), to a portion of a coin (*r.*, for its right side, or edge), or to a catalogue used in describing or discussing it (*N*, for Newcomb, *The United States Copper Cents of the Years 1816–1857*).

An extensive Glossary follows. Here, Breen gives accurate, concise, and cross-referenced treatment to several hundred words and terms of particular interest to American numismatists. They range from *R-7* (on a rarity scale, an indication that between four and twelve specimens are known), to *fair* (a term used in describing the degree of wear found on a coin), to *goloid* (a gold-silver mixture persistently employed for late nineteenth-century pattern coins, but never for circulating issues).

Indices of names and subjects round out the Breen book. In both cases, the writer incorporates his coin numbering system into his general listings. Thus, for William Barber, a nineteenth-century Anglo-American engraver, Breen includes ordinary page references in ordinary

type, plus a boldface entry, referring directly to a specific coin in the catalogue. He does the same for owners of collections, whose specimens are illustrated in his text.

As I suggested at the beginning of this review, the publication of *Walter Breen's Complete Encyclopedia of U.S. and Colonial Coins* is an epochal event for American numismatics. This is certainly not the first attempt at an all-encompassing treatment of our coinage: the desire to categorize and list everything ever struck by or for the United States (most commonly with advice as to its dollar worth, something notably, and justifiably, absent from this work) runs like a thread through the entire story of our numismatic bibliography. In the process, any number of mediocre texts, all purporting to be "general," "comprehensive," or "complete" have had their brief time in collector consciousness, and have then disappeared. Despite its ambitious title (which might have been better named: what, precisely, distinguishes a complete encyclopedia from an *incomplete* one—the word encyclopedia inherently refers to an all-inclusive study), Breen's new book actually delivers what its title promises: within its self-described purview, this book is, and will continue to be, the standard work on American numismatics, period.

I doubt whether any other American numismatist could have written it. Breen's mind and memory for coinage are legendary among the collecting fraternity. It is precisely these qualities, augmented by over forty years of numismatic research, which together made possible the creation of this truly comprehensive book. The information it contains would have made Walter Breen's *Encyclopedia* worthwhile for the serious student of American coinage, even without additional considerations.

But other considerations do exist. Breen's text is lively, enjoyable to read for the casual browser and the serious specialist alike. The photographs are, with scarcely an exception, on an extremely high order (compare them with the poor quality of many other survey publications). They connect directly with the text, are there for a purpose. Breen's introductory materials are very useful, as are his bibliography and his glossary. In brief, this is one of those books which the serious American specialist will simply have to have in his/her library.

This is not to say that improvements could not take place. At times, Breen's organization falters from the sheer size and complexity of the

subject with which he deals. For example, several of his major sections have introductory passages, called "Overviews." But other major sections do not, while several minor ones do. Accusing the writer of a work of this magnitude of the sin of loose organization would be churlish at least; but all the same, if one is going to adopt a strict subject-outline type of organization for part of a book, one might as well be consistent, extending the same plan of arrangement to all parts of it. Additionally, I found Breen's placement of the Augustus Humbert-U.S. Assay Office coinage in a chapter separate from other California pioneer gold issues somewhat jarring—here, Breen probably has historical logic on his side, but most collectors would have expected to find these issues in the same section as their purely private California counterparts.

Occasionally, he gets his facts wrong or misconstrues them. I found virtually no errors of either type in the sections on federal coinage; but a few things do need to be amended in the pre-United States Mint period. For instance, the writer refers (p. 17) to a revocation of the charter of Massachusetts Bay by James II in 1684: the king at that time was still Charles II. Breen (p. 21) ascribes the "American Plantations" pieces of 1688 to John Croker. This is unlikely: Croker did not emigrate to England from the continent until 1691, and a triumphant Protestant monarchy is hardly likely to have commissioned coinage paying tribute to a deposed Catholic monarch at that time. And based on my own work in the Boulton and Watt Archives, Birmingham, I would have to say that Breen's section on the Myddelton tokens (pp. 106–7) which were struck by the Soho coiners, is incorrect on several counts.

On balance, these are certainly minor criticisms, easily amended in a later edition. And I very much hope that there will *be* later editions, and many of them: what we have here is the basis of an ongoing forum for the very best, most current work on American coinage. If Mr. Breen can continue to provide the major framework for such a publication, augmented as needed and as appropriate by other scholars, he will have provided American numismatics with an even greater service than the one contained in his *Encyclopedia of U.S. and Colonial Coins*. And that would be no mean feat.

RICHARD G. DOTY
Smithsonian Institution

BOOKS RECEIVED

Space does not permit review of all books submitted, but an effort will be made to list all works received. The listing will include works to be reviewed in future issues of *AJN*.

A. Alföldi, E. Alföldi, et al. *Die Kontorniat-Medaillons*, Teil 2: Text. Deutsches Archäologisches Institut AMuGS VI, 2. Berlin and New York: Walter de Gruyter, 1990. xxiii, 455 pp., 64 pls. ISBN 3-11-011905-6. DM 348.

Colin R. Bruce II, ed. *Collecting World Coins. A Century of Monetary Issues*, 3rd ed. Iola, Wisc.: Krause Publications, 1990. 624 pp., illus. ISBN 0-87341-146-3. \$19.95.

Carlo M. Cipolla. *La moneta à Milano nel quattrocento. Monetazione argentea e svalutazione secolare*. Istituto Italiano di Numismatica Studi e materiali 1. Rome: Istituto Italiano di Numismatica, 1988. 67 pp., 8 pls. ISBN 88-85914-24-1, ISSN 0393-5329. Lit 25,000.

Clive Foss. *Roman Historical Coins*. London: B. A. Seaby, Ltd., 1990. viii, 335 pp., many illus. ISBN 0-900652-97-7. £ 29.50.

K. Gruel. *La monnaie chez les gaulois*. Paris: Éditions Errance (Collection des Hespérides), 1989. 179 pp. illus. ISBN 0982-2770, ISSN 2-903442-83-5. F 175.

R. Ross Holloway. *Ripostigli del Museo Archeologico di Siracusa*. Centro internazionale di studi numismatici, Napoli Biblioteca 2. Rome: Istituto Italiano di Numismatica, 1989. 90 pp., 56 pls. Lit 30,000.

Chester L. Krause and Robert F. Lemke. *Standard Catalog of United States Paper Money*, 9th ed. Iola, Wisc.: Krause Publications, 1990. 204 pp., illus. ISBN 0-87341-148-X.

W. J. D. Mira and W. J. Noble. *The Holey Dollars of New South Wales. A Pictorial Record of Known Surviving Specimens*. Sydney: The Australian Numismatic Society in association with the Mint and Barracks Museum, 1988. 92 pp., illus. ISBN 0-9590796-1-0.

Hanz-Joachim Schulzki. *Die Fundmünzen der römischen Straßenstation Flerzheim. Untersuchungen zum Münzgeldumlauf in der Germania Inferior*. Beihefte der Bonner Jahrbücher 48. Köln: Rheinland Verlag GMBH in Kommission bei R. Habelt, 1989. 159 pp., 10 pls. ISBN 3-7927-1089-7. DM 79.

Hommes et richesses dans l'empire byzantin, tome 1. iv^e-vii^e siècle. Ouvrage publiée avec le concours du C.N.R.S. Paris: Éditions P. Lethielleux, 1989. 313 pp., 16 pls.

La moneta nei contesti archeologici: esempi dagli scavi di Roma. Atti dell'incontro di studio Roma, 1986. Istituto Italiano di Numismatica Studi e materiali 2. Rome: 1989. 137 pp., 14 pls. ISBN 88-85914-29-2, ISSN 0303-5329. Lit 35,000.

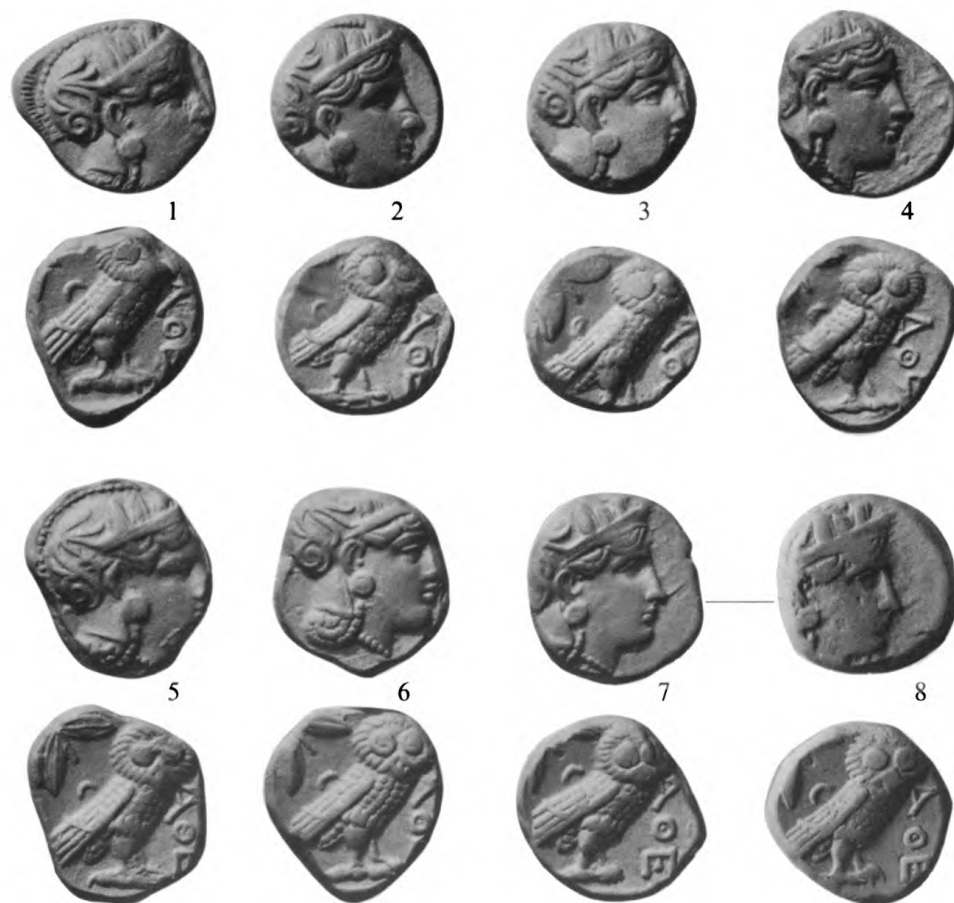
W. Szaivert. *Moneta Imperii Romani 18. Die Münzprägung der Kaiser Marcus Aurelius, Lucius Verus und Commodus (161/192).* Denkschriften der Österreichischen Akademie der Wissenschaften, Philosophisch-historisch Klasse, 187 = Veröffentlichungen der Numismatischen Kommission 17. Vienna: Verlage der Österreichischen Akademie der Wissenschaften, 1986. 336 pp., 26 pls. ISBN 3-7001-0778-1.

M. Taliercio Mensitieri. *La monetazione di Valentia.* Centro internazionale di studi numismatici, Napoli Biblioteca 3. Rome: Istituto Italiano di Numismatica, 1989. 132 pp., 23 pls. Lit 30,000.

Paula J. Turner. *Roman Coins from India.* Royal Numismatic Society Special Publication 22 = Institute of Archaeology Occasional Publication 12. London: 1989. viii, 152 pp., 7 pls. ISBN 0-905853-23-7, ISSN 0141-8505. £20.

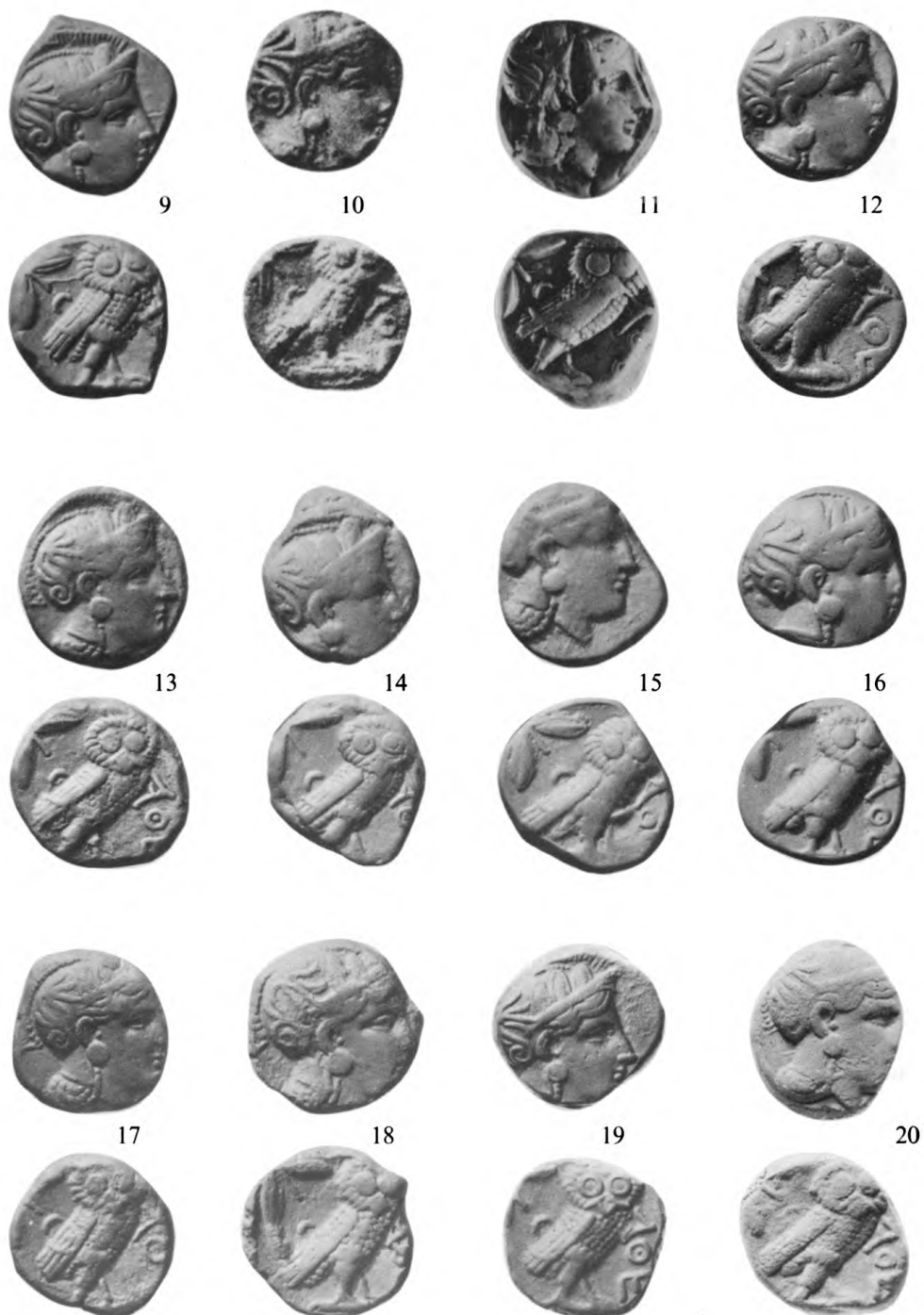
Books for review should be sent to

William E. Metcalf
Book Review Editor
American Journal of Numismatics
Broadway at 155th Street
New York, NY 10032 USA

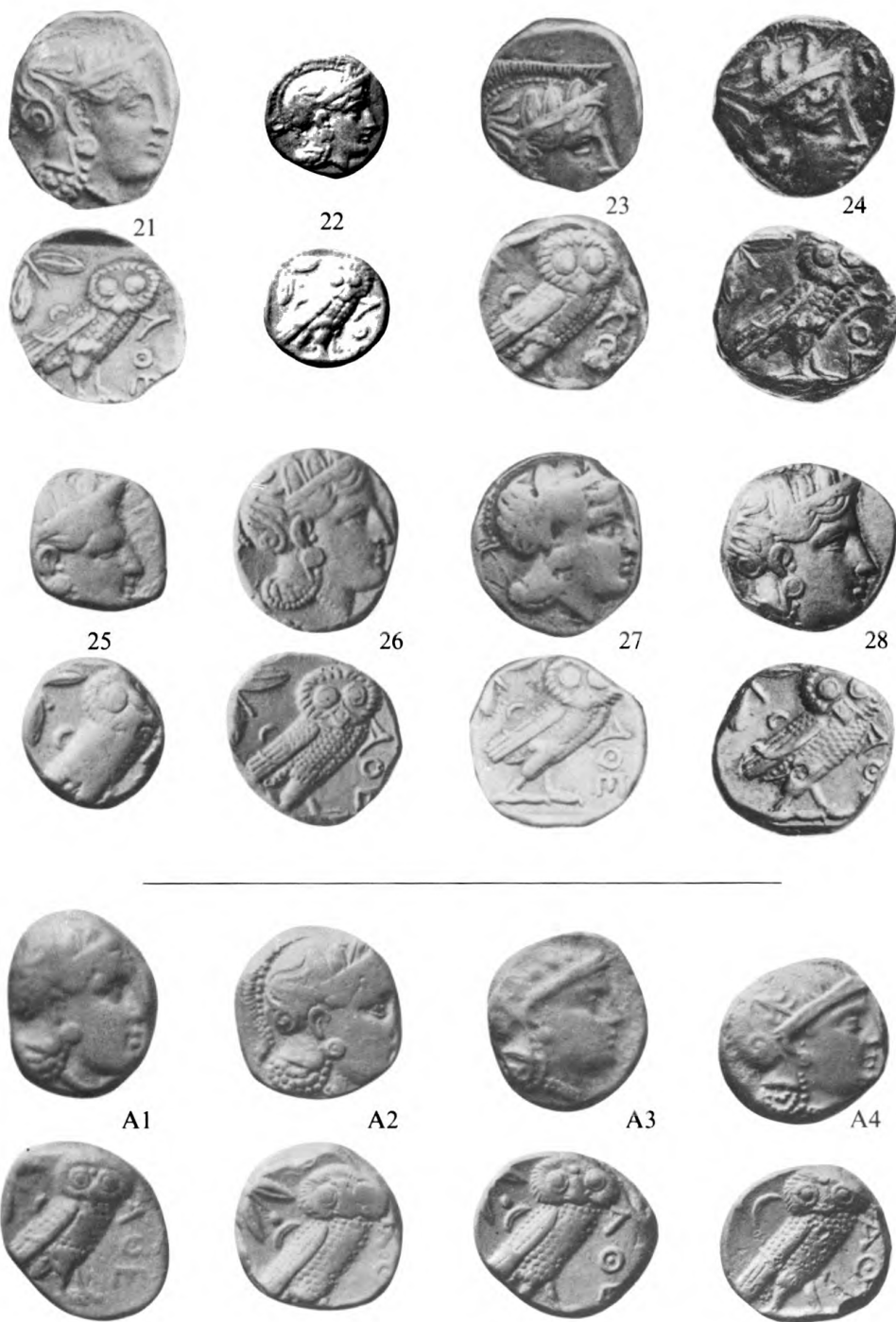


Third Century Athenian Tetradrachms

Plate 2

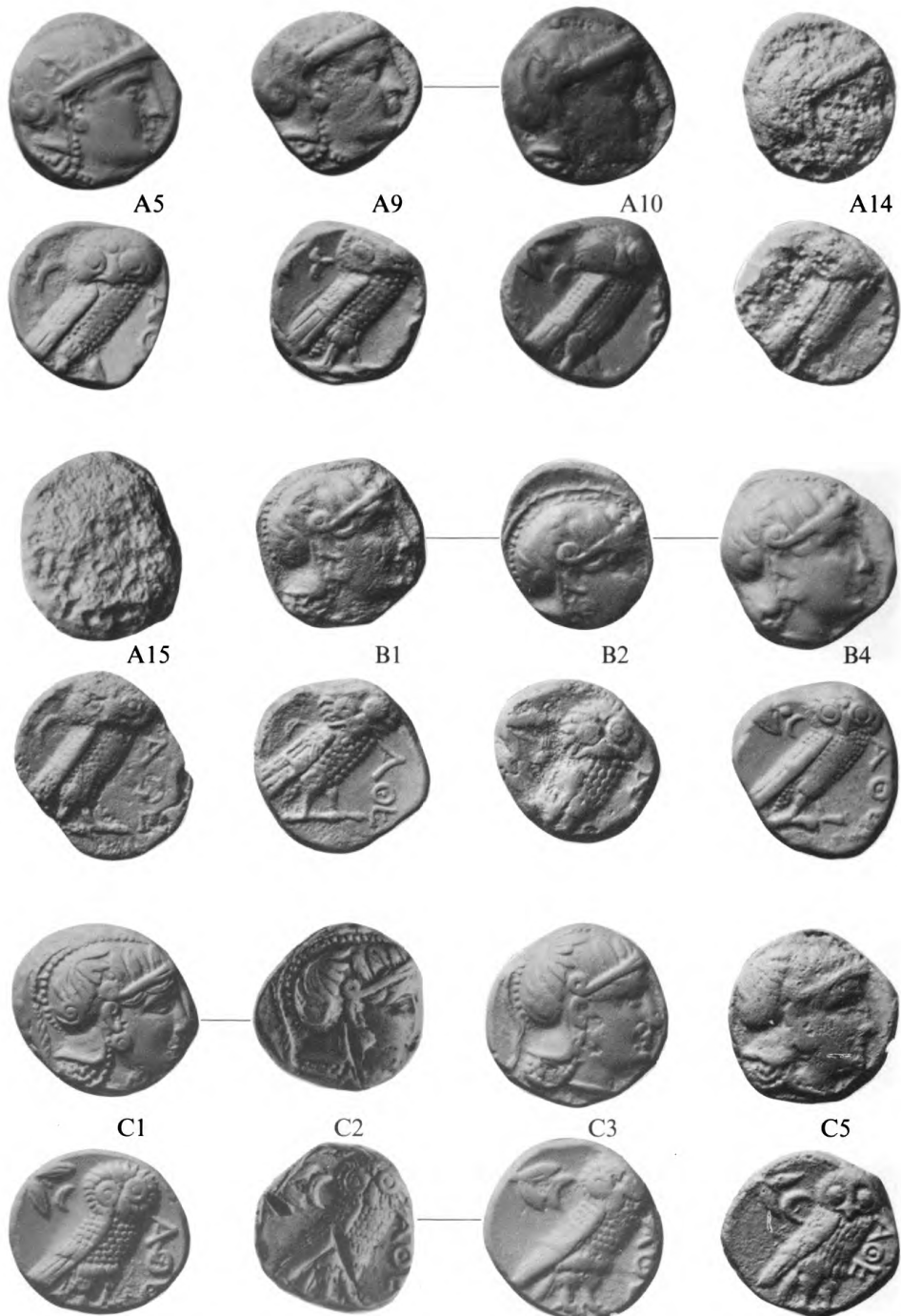


Third Century Athenian Tetradrachms

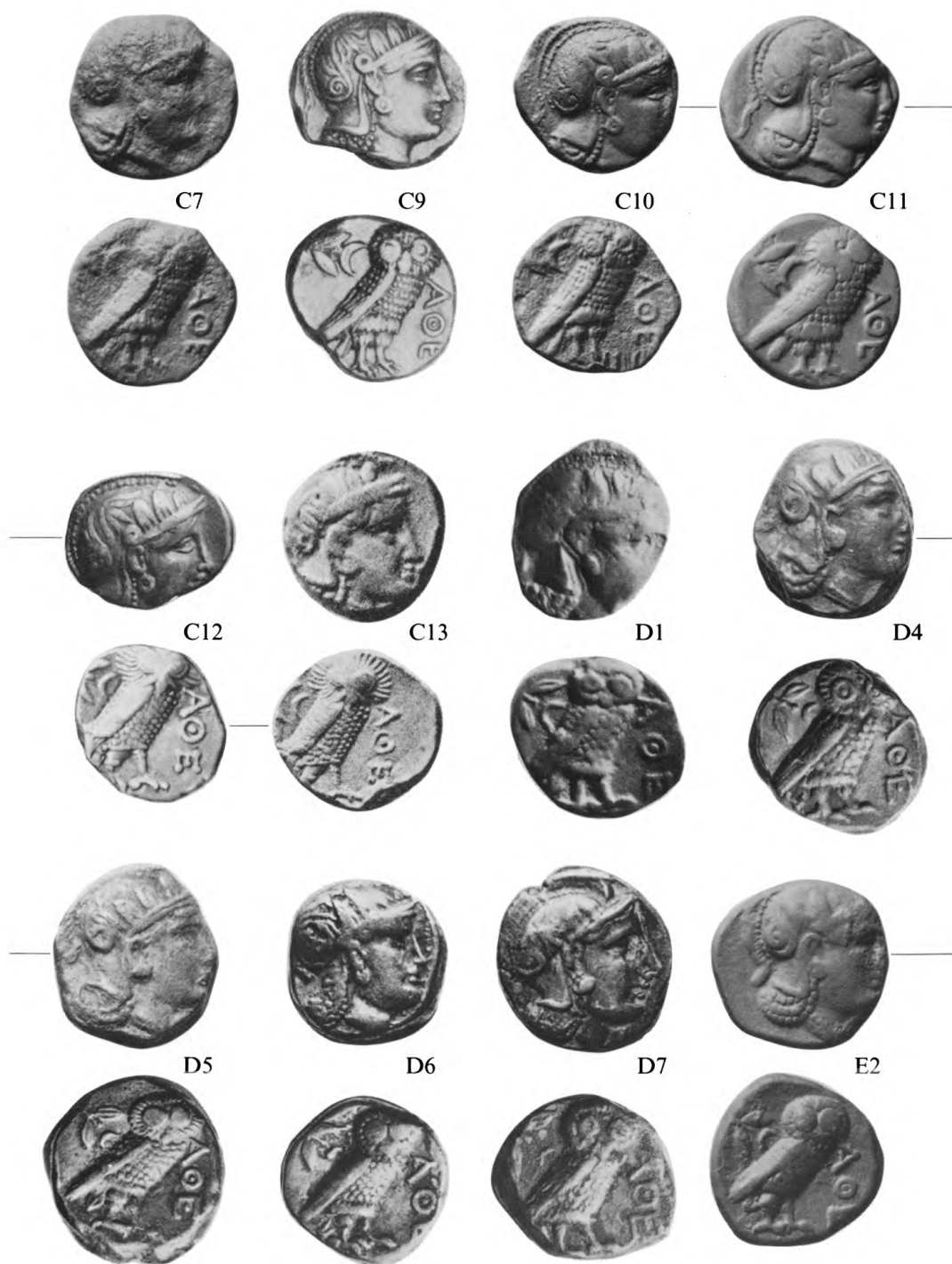


Third Century Athenian Tetradrachms

Plate 4

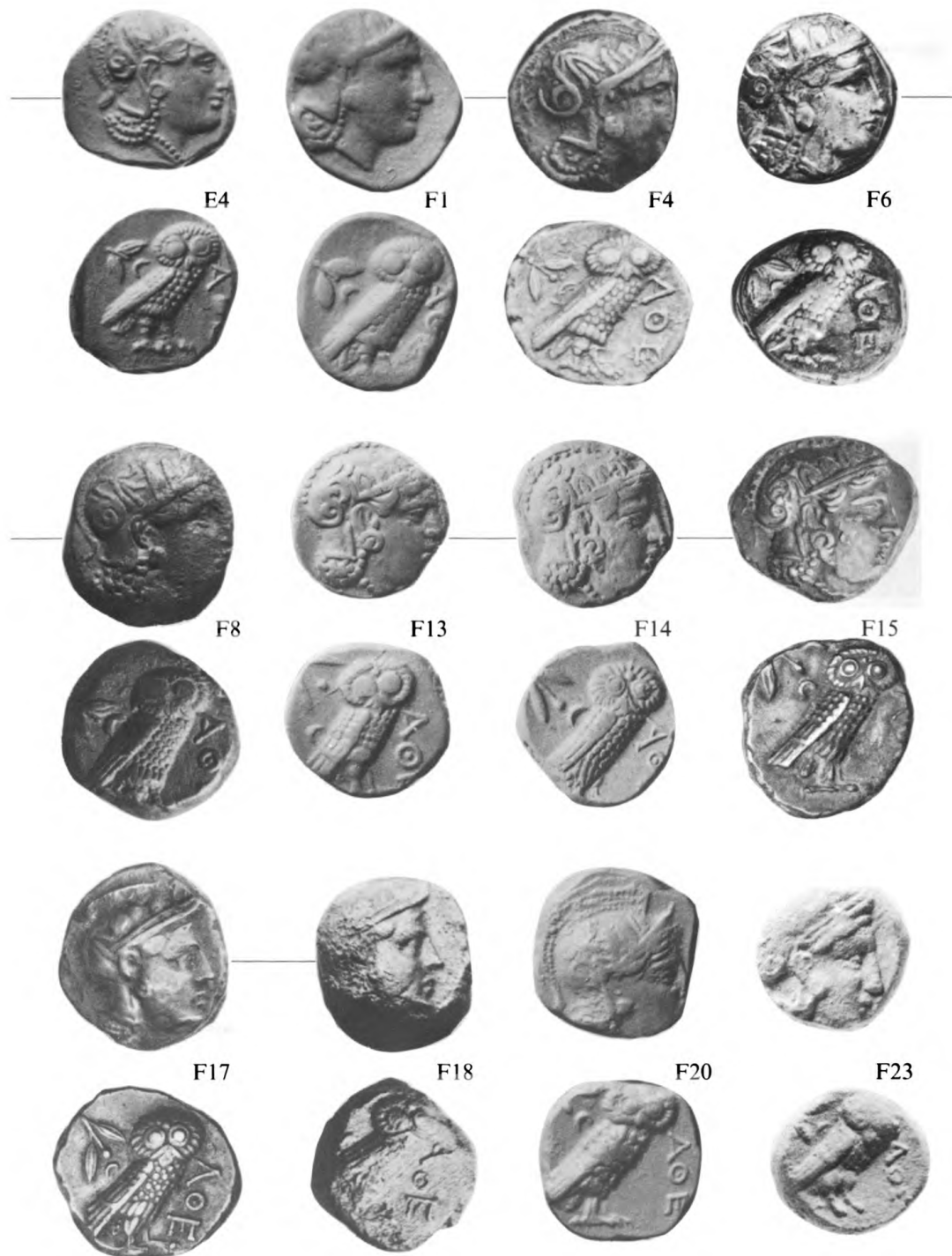


Third Century Athenian Tetradrachms



Third Century Athenian Tetradrachms

Plate 6



Third Century Athenian Tetradrachms



Antony and Octavian

32.1

37.6

37.1

37.2

37.3

38.1

38.3

38.4

38.5

41.1

41.9

41.12

40.2

Antony and Octavian



1



2



3



4



5



6



7



8



9



10

Heracles at Smyrna

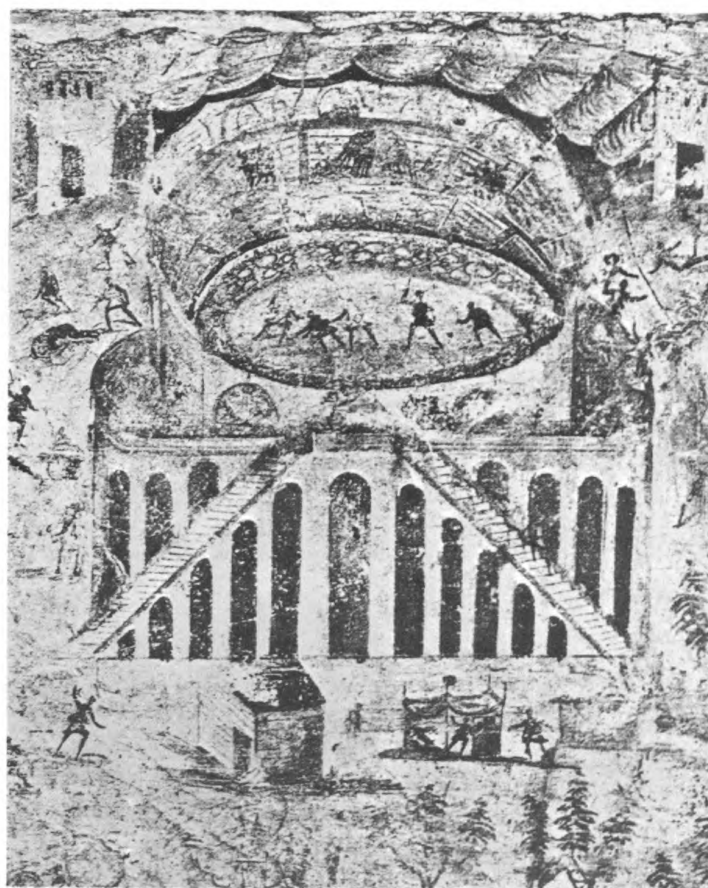
Plate 10



Stadium Aureus



6



7

Stadium Aureus



9

Stadium Aureus



11



12



10





13



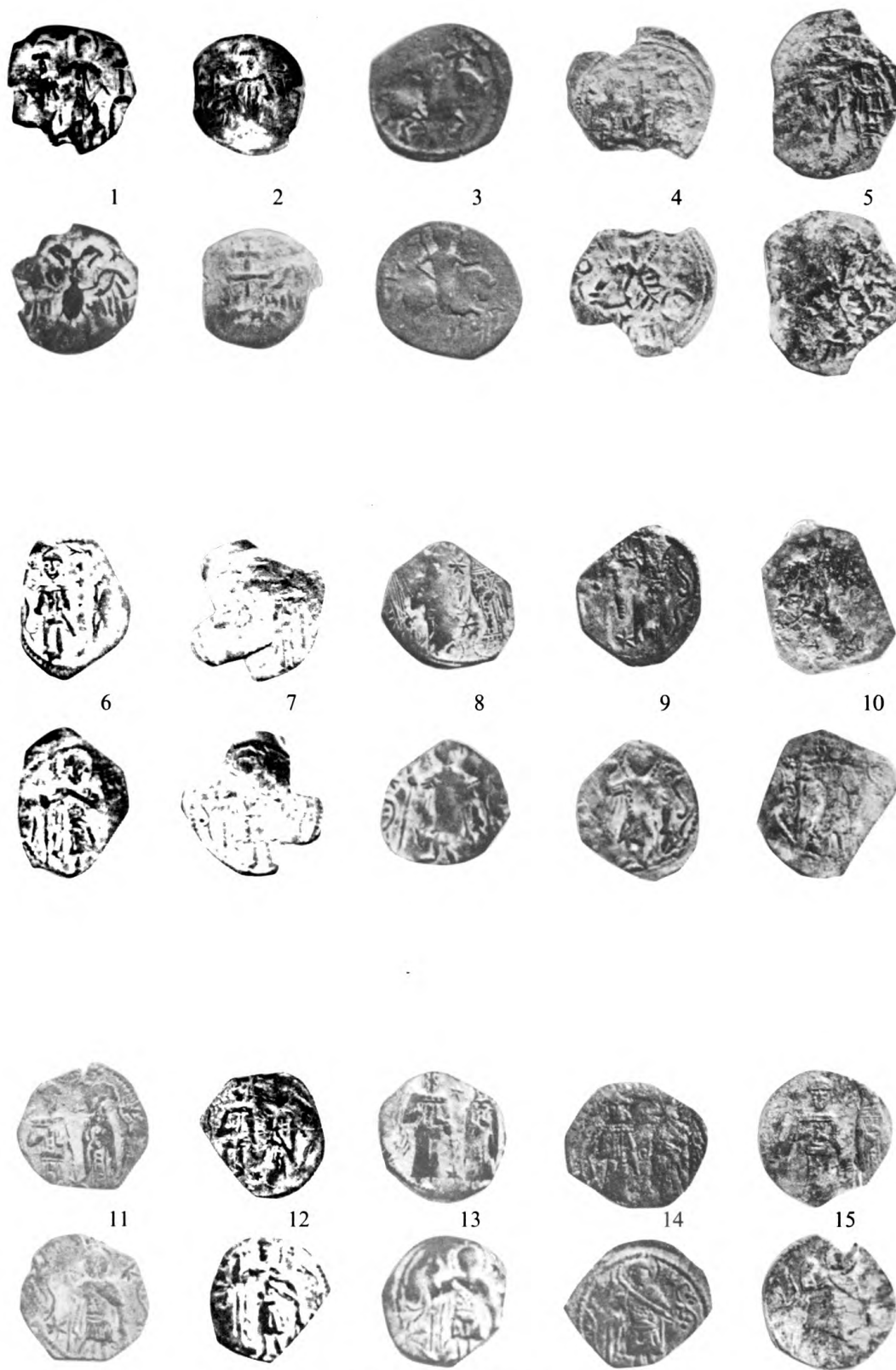
14



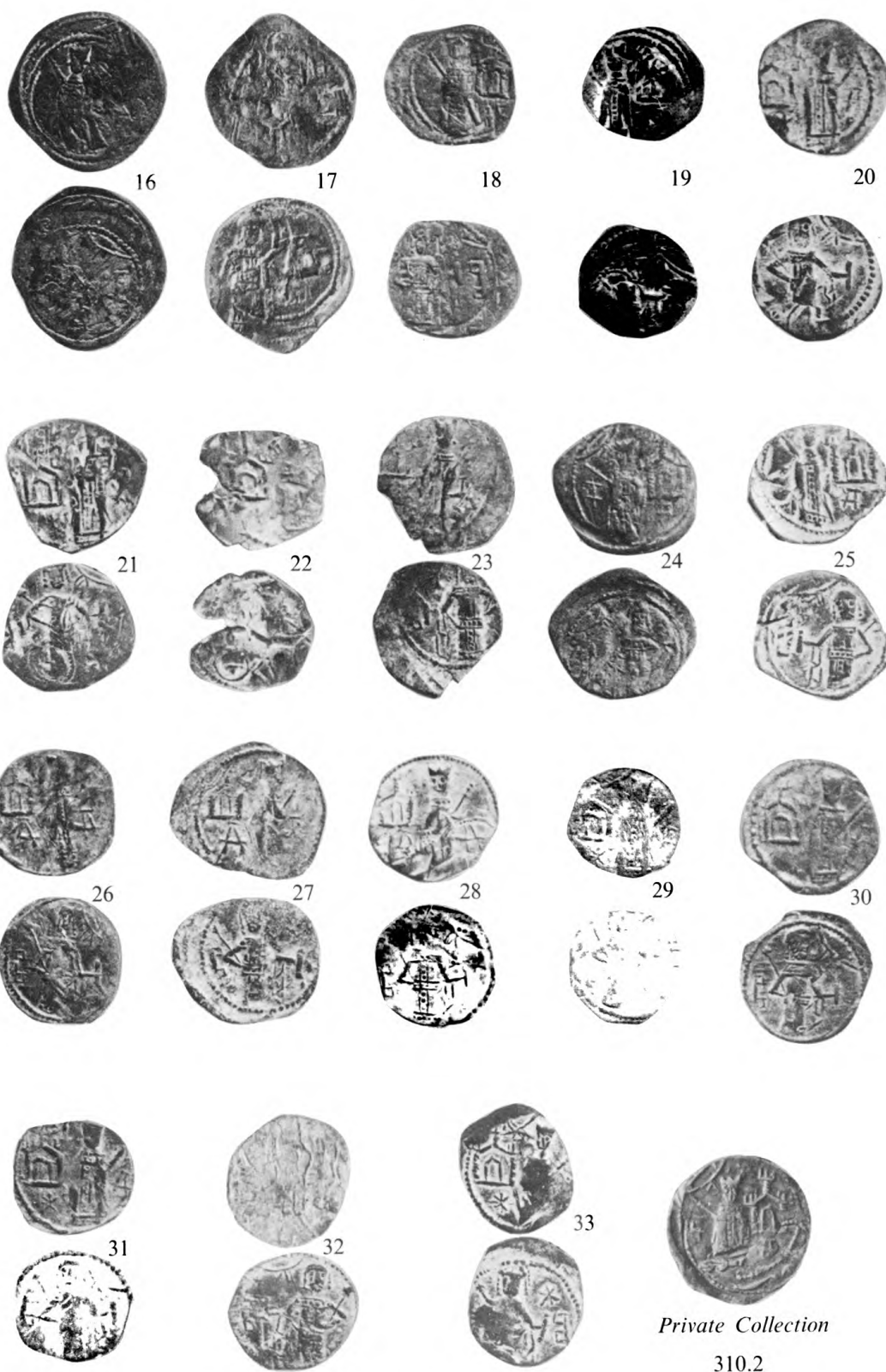
15

Stadium Aureus

Plate 14



The Serres Hoard



Private Collection

310.2

The Serres Hoard

Plate 16



Flawed Peruvian Proofs



